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ABSTRACT

This curriculum guide contains materials for a 10-month postsecondary program to educate qualified adults to function as surgical technicians in association with surgeons and nurses in operating rooms and delivery rooms. The program provides for both a didactic and a clinical component. Contents include general information, a listing of major functions and responsibilities of the surgical technician, general course objectives, and a progress record for recording experiences and achievement. Materials follow for the six major units of study: orientation to the operating room (60 hours), safe patient care (150 hours), intraoperative techniques (200 hours), supplies and equipment (130 hours), basic sciences (330 hours), and supervised experience in surgical technology and surgical procedures (300-350 hours). For each subject area, the following components are provided a brief course description, course objectives, and a content outline with corresponding behavioral objectives, suggested activities, and recommended time. (YLB)

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SURGICAL TECHNOLOGY CURRICULUM

DIVISION OF VOCATIONAL-TECHNICAL SCHOOLS

PREPARED FOR

CONNECTICUT STATE DEPARTMENT OF EDUCATION
DIVISION OF VOCATIONAL AND ADULT EDUCATION
BUREAU OF VOCATIONAL PROGRAM PLANNING AND DEVELOPMENT
HARTFORD, CONNECTICUT 06145

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INTRODUCTION

Recognizing the State's need for the development of education for Surgical Technicians, Eli Whitney Regional Vocational-Technical School initiated a ten month post-secondary program for adults.

The program is divided into two essential components, didactic and clinical. Students are assigned to a hospital for clinical experience which provides on-the-job experience under the instruction and supervision of medical and surgical professional leaders. Thus, the clinical facilities become an extension of the school, making the educational program more relevant/valid.

The clinical experience also provides an excellent source of future employees for the community by having a ready pool of well educated/experienced employees to meet expanding and changing health personnel needs.

Surgical Technicians are particularly qualified to function as team members with nurses and doctors (under the supervision and responsibility of the Operating Room Supervisor, a Registered Nurse) to help provide the best possible care to the surgical patient.

Upon graduation the students receive a Surgical Technician pin and a certificate recognizing satisfactory completion of the course.

PREFACE

The purpose of the Surgical Technician Program is to educate qualified adults to function in association with surgeons and nurses in operating rooms and delivery rooms. This curriculum outline is intended to be a guide toward that end. It includes a course description and course objectives for each subject. A Progress Record is included as a means of recording experiences and achievement.

MAJOR UNITS OF STUDY AND PRACTICE INCLUDE:

1.	Orientation to the Operating Room	60 Hours
2.	Safe Patient Care	150 Hours
3.	Intraoperative Techniques	200 Hours
4.	Supplies and Equipment	130 Hours
5.	Basic Sciences	330 Hours
6.	Supervised Experience in Surgical Technology and Surgical Procedures	300-350 Hours

GENERAL INFORMATION

ADMISSION REQUIREMENTS: High School graduate, personal interview, written spontaneous essay, transcript of grades, physician's certificate of health.

LENGTH OF COURSE: One school year.

SELECTION OF STUDENTS: Criteria was developed in consultation with advisory and admission committees. All records are evaluated by the Guidance Department and Surgical Technician Department Head. Grading and ultimate ranking of candidates are based on personal interview, spontaneous essay, scholastic record, work/experience record.

COOPERATIVE HOSPITAL SCHOOL EXTERNSHIP PROGRAM: In addition to the formal classroom and laboratory experience given at Eli Whitney Technical School, each student has the opportunity for externship experience offered during the second semester in cooperation with the local hospitals. The cooperating affiliates and the Technical School share a written contract of agreement.

Ratio in the clinical area is one instructor to every five students.

MAJOR FUNCTIONS AND RESPONSIBILITIES OF THE SURGICAL TECHNICIAN

Surgical Technicians are part of the Operating Room team responsible for the cleanliness, safety and efficiency of the Operating Room that leads to excellence in patient care.

MAJOR FUNCTIONS

1. As a Scrub Technician, assists and works under the direct supervision of the circulating nurse and surgeon.
2. Participates in preparing the physical environment before and after surgery.
3. Participates in preparing and caring for supplies and equipment, sterile and unsterile.
4. Participates as an important member of the Operating Room Health Care Team to maximize patient care.

RESPONSIBILITIES

--Perform delegated duties competently

--Recognize role within the Health Care Field as it relates to confidentiality

--Relate to and communicate effectively with patients and others

--Maintain good physical and mental health

--Demonstrate respect for the patient as a person and respect the patient's right to privacy

--Work in an evnironment that demands extreme conscientiousness, emotional stability and attention to minute details

--Work effectively in a high stress environment

--Demonstrate mature judgement and flexibility in emergency situations

--Perform a variety of tasks, some of which may be unpleasant

--Demonstrate initiative, ability to follow directions, and accuracy in preparing instruments and supplies within a designated time

GENERAL COURSE OBJECTIVES

To assist the student to develop a basic understanding of anatomy, physiology, and microbiology and to apply these principles to procedures in the operating room.

To assist the student to develop the understanding and skills necessary to be a safe, effective member of the Surgical Team.

To assist the student to develop respect for the rights of others, communication skills and an understanding of positive interpersonal relationships with others.

To assist the student to develop an awareness of the implications of ethical, moral and legal responsibilities.

To assist the student to qualify to sit for the Certification Examination administered by the National Certifying Board for Surgical Technologists upon completion of this course.

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PROGRESS RECORD

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Identify O.R. Equipment
Fasten Safety Strap - Table
Manipulate O.R. Table
Adjust Light Handles
Perform Housekeeping Duties
Maintain Good Body Mechanics
Turn Patient
Lift Patient
Transfer Patient
Handle Linen - Bed/Stretcher
Identify O.R. Supplies
Prepare Items for Autoclave
Wrap for Sterilization
Operate Autoclave
Open Sterile Supplies (Table)
Open Sterile Supplies (Hand)
Position Patient (10 Positions)
Perform Active Range of Motion
Perform Passive Range of Motion
Measure T.P.R.
Measure B.P.
Perform Shave Prep
Perform Scrub Prep
Don Surgical Attire
Scrub - Aseptic Technique
Gown Self

Gown Another

Tie Gown of Another

Perform Gloving, Closed Method

Perform Gloving, Open Method

Perform Gloving - Self

Perform Gloving - Another

Remove Gloves

Transport - Gurney

Transport - Wheelchair

Transport - Bed

Verify Pre-op Check List

Check Patient Identification

Identify P.E. Equipment

Demonstrate Auscultation Technique

Demonstrate Palpation Technique

Demonstrate Percussion Technique

Demonstrate Inspection Measures

Assemble Syringe, Needle

Aspirate Solution via Syringe from Vial, Ampoule

Measure Specified Doses

Pour Solution into Basin

Assemble Atomizer

Assemble Bulb Syringe

Place Sandbags

Apply Elbow Restraints

Apply Armboards

Adjust Ether Screen

Identify Gas Machine Components

Perform First Aid

Perform C.P.R.

Drape for Laparotomy

Drape for Perineal Procedure

Operate Microscope

Receive Specimen

Perform Flipping Technique

Set Up Mayo Stand

Set Up Back Table

Arrange Sutures

Make Suture Book

Arrange Instruments

Set Up Prep Table

Utilize Needle/Blade Book

Remove Items, Autoclave

Affix Suction

Affix Bovie

Identify Instruments

Clean Instruments

Pass Instruments

Perform Hand Signals for Passing

Handle Suture Materials

Hand Sutures/Ligatures to Another

Pass Dissectors

Apply and Remove Blade

Set Up for Laparotomy

Utilize Communication Skills:

  - Verbal
  - Non-Verbal

COURSE TITLE: Orientation to the Operating Room COURSE HOURS: 60

COURSE DESCRIPTION: This course includes an introduction to: The Operating Room, Surgical Conscience, Ethical, Moral and Legal Values, Medical Terminology and Interpersonal Relations.

COURSE OBJECTIVES:

1) To develop an appreciation of the role of the Surgical Technician relative to patients and staff members.
2) To understand the rationale and principles of surgical technology which will foster a surgical conscience.
3) To develop an awareness and foster an appreciation for ethical, moral and legal responsibilities.
4) To develop proficiency in logical word analysis, word building and spelling of medical terminology necessary to other courses being studied concurrently.
5) To develop understanding of self and others relative to behavior.
6) To develop cogency in identifying factors which create stress and those positive coping mechanisms which modify behavior and enhance cooperative efforts.

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
4	I. INTRODUCTION TO THE O.R. TEAM	The student will be able to:	--Interpersonal Relations Circle
	A. Purpose of Program 1. Introductions 2. Rules and policies 3. School tour 4. Objectives and philosophy of Voc-Tech education 5. Objectives and philosophy of course	Compare/contrast personal philosophy and objectives with those presented within the course.	--Tour of School --Assigned Reading
	B. Study Habits 1. Motivation a. Interest b. Learning satisfies a need c. Success 2. Conditions for study a. Aids to study b. Preview lessons c. Review for exams d. Concentration	List and describe conditions and attitudes desirable for success in career choice of surgical technology.	--Lecture/Discussion --Assignment Sheet
	C. Qualifications of Surgical Technician 1. Personality a. Appearance, grooming b. Cleanliness 2. Understanding a. Attitudes b. Values c. Social behavior		

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	3. Attitude a. Patience b. Kindness c. Empathy d. Predictable behavior e. Getting along with others f. Stamina g. Emotional stability h. Respect i. Sense of humor j. Team spirit 4. Personal health a. Physical b. Mental c. Social	The student will be able to: Identify and describe methods of evaluating attitudes, personal health.	--Presentation of Short Projects --Role Playing --Each student demonstrates a task which he/she does with excellence--peer review and evaluation
	5. Skills a. Cognitive b. Psychomotor c. Affective domain 6. Psychomotor skills a. Dexterity b. Accuracy c. Developing rapidity	State self-interpretation of the characteristics conducive to attaining adroitness.	--Conference: -Certification and the Surgical Technician -State and national organizations (A.S.T.)
	7. Education and certification a. Goals, objectives b. Certification exam c. C.E.U.'s d. Local and national organizations	Describe requirements for certification and C.E.U.'s as well as personal goals.	

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
8	II. HEALTH CARE TEAM A. Team Concept 1. Common goals 2. Total patient dependence on O.R. team B. Sterile Team Members 1. Surgeon 2. Assistants a. Intern b. Resident c. Physician's assistant 3. Scrub person a. Technician b. Nurse C. Unscrubbed Team Members 1. Anesthesiologist or nurse anesthetist 2. Circulator 3. X-Ray personnel 4. Pump technician 5. Clergy 6. Pathologist 7. Biomedical Engineer D. Staff Personnel 1. Supervisor 2. Head Nurse 3. Clinical Instructor 4. Staff Nurse 5. Surgical Technician 6. Staff Physician 7. Aide/Porter 8. Workroom Assistant 9. Unit Clerk/Secretary E. Meeting Objectives 1. Patient: essential presence	The student will be able to: Identify and differentiate between members of the O.R. team.	--Classroom: -Assigned Readings -Lecture/Discussion -Role Playing Regarding Team Members --Assignment Sheet --Test --Clinical Area Conference: -Distinguish between team members. -Describe functions observed. -Explain how team members work toward common goal. -Describe outstanding attributes noted while observing Surgical Technician in action.

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	F. Division of Duties 1. Preliminary preparations 2. Patient 3. Suite 4. Supplies/equipment G. Scrub Person 1. Sterile supplies 2. Intra-op procedures 3. Post-op duties H. Circulator 1. Manages case with surgeon and anesthetist 2. Anticipates patient's needs, team's needs 3. Obtains supplies and equipment I. Clean-up Procedures 1. Team effort 2. Specific duties	The student will be able to: Differentiate between the Scrub and Circulator functions and duties as well as differentiate between sterile and non-sterile supplies and equipment.	--Demonstration and Return Demos: -Sterile and Non-sterile Supplies --Role Playing: -Scrub Person -Circulating Person
	J. The Surgical Technician 1. Functions while scrubbed a. O.R. set up b. Anticipates and passes instruments c. May act as first assistant d. Assists in counts e. Identifies and preserves specimens 2. Functions while unscrubbed a. Open sterile supplies before case b. Assist with patient positioning	List and explain the duties and functions inherent in surgical technology.	Written Test: -"The Health Care Team" --Assigned Reading

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	c. Prep patient d. Assist anesthesiologist or anesthetist as necessary e. Assist with sponge, needle, instrument counts f. Tie gowns of scrubbed personnel g. Adjust lights h. Handle non-sterile items i. Assist in transferring patient j. Preserve specimens 3. Other functions a. Assist with ordering and stocking supplies b. Prepare instruments for sterilization c. Assist with patient transportation		--Demonstration and Return Demos Regarding: -Opening Sterile Supplies -Sponge, Needle, Instrument Counts -Tie Gowns of Scrubbed Personnel -Adjust Lights -Handle Non-sterile Items -Prepare Instruments for Sterilization --Practice Sessions --Practical Test --Written Test: -"The Surgical Technician"
4	III. INTRODUCTION TO THE PRINCIPLES OF SURGICAL CONSCIENCE A. Definition 1. Foundation 2. A personal value B. Areas Affected by Surgical Conscience 1. Patient protection 2. Moving and positioning the patient 3. Environmental protection 4. Protection from psychological insult 5. Anxiety and fear 6. Unnecessary time under anesthesia	The student will be able to: Interpret in own words the basis, rationale and principles of surgical conscience	--Assigned Reading --Discussion Circle --Lecture/Discussion

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	C. Aseptic Technique 1. Optimum dedication to patient protection 2. Individual responsibility 3. Team involvement 4. Implications of breaks in technique 5. Praise for admitting error 6. Dictates of conscience 7. Pride in self and accomplishment		--Test: "Surgical Conscience"
2	IV. ETHICAL RESPONSIBILITIES A. Definition B. Examples 1. Honesty 2. Surgical conscience 3. Reporting incident C. Confidentiality 1. Patient's personal life 2. Procedures 3. Public figure D. Respect 1. Patients 2. Co-workers 3. Gossip 4. Discussing problems E. Opinions 1. Are your own 2. Medical judgements not within realm of responsibility 3. List doctor selection without recommendation F. Loyalty 1. Self 2. Co-workers 3. Employer 4. Profession	The student will be able to: Define, give examples of and explain ethical responsibilities of Health Care Workers.	--Pre-Test --Discussion --Assigned Reading --Lecture/Discussion --Written Assignment --Quiz: "Ethical Responsibilities"

HOURS	CONTENT	BEHAVI[illegible]L OBJECTIVES	SUGGESTED ACTIVITIES
2	V. MORAL RESPONSIBILITIES A. Definition B. Trust 1. Patient entrusts life to team 2. Honor that trust C. Patient's Wishes 1. Take them seriously 2. Notify charge person of same D. Religious Beliefs 1. Honor them without question 2. Your right to your own 3. Honor requests for clergy 4. Blood transfusions may not be allowed by some 5. Rites of the sick 6. Medals must not be forcefully removed E. Personal Religious Convictions 1. Consider when accepting job 2. You are entitled to convictions 3. Be proud of your convictions	The student will be able to: Define, give examples of and explain moral responsibilities of Health Care Workers.	--Pre-Test --Lecture/Discussion --Conference comparing and contrasting ethical and moral responsibilities. --Written Assignment --Quiz: "Moral Responsibilities"
6	VI. LEGAL RESPONSIBILITIES A. Definition B. Types 1. Malpractice a. Injudicious treatment resulting in injury or death b. Actions not within realm of responsibility 2. Negligence a. Short cuts b. Omission of act which reasonable person would do c. Commission of act which reasonable person would not do d. Patient identification	The student will be able to: Define, give examples of and explain legal implications, responsibilities, and ramifications for the Surgical Technician. Differentiate between ethical, moral, and legal responsibilities.	--Pre-Test --Lecture/Discussion

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	C. Surgical Technician Responsibilities	The student will be able to:	
	1. Responsible for own actions		
	2. Stay within scope of practice limitations		--Written Assignment
	3. Perform accurately, according to principles	Distinguish/differentiate between moral, ethical and legal aspects	
	4. Share "count" responsibility		--Role Playing
	5. Medication responsibility does not include administering to patient		
	D. Criminal Responsibility		
	1. Patient property		
	2. Hospital property		
	3. Practicing medicine		
	E. Common Areas of Concern		
	1. Abondonment of patient		
	2. Specimens		
	3. Surgical consent		
	4. Defamation		--Role Playing
	5. Reporting incidents		
	6. Documenting incidents		
	7. Patient relations		
	8. Patient privacy		
	9. Dying declarations and nuncupative Wills		--Assigned Reading
	10. Errors and Ommissions Insurance		
	F. Other Areas of Concern		--Written Assignment
	1. Legal representation		
	2. Subpoena		
	3. Summons		--Discussion of Assignment
	G. Recapitulation		
	1. Familiarize self with guidelines		
	2. Follow guidelines explicitly		
	3. Recognize possible situations		--Test: "Ethical, Moral and Legal Responsibilities"
	4. Prevent legal implications		

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
15	VII.MEDICAL TERMINOLOGY A. Word Elements 1. Roots 2. Combining forms 3. Combining vowels 4. Prefixes 5. Suffixes B. Word Building 1. Nouns 2. Adjectives 3. Verbs C. Word Analysis 1. Components/elements 2. Different elements with same meaning a. Dermato b. Cutaneo 3. Two (2) similar forms having same meaning a. Hemo b. Hemato 4. Accents 5. Pronounciation	The student will be able to: Define and differentiate between root words, combining forms, prefixes and suffixes.	--Assigned Reading --Lecture/Discussion --Chalkboard Relay Race --Written Assignment --Review Assignment --Verbal Quiz --Written Test
	D. Directions, Planes, Regions and Cavities 1. Body directions antero to ventro 2. Body positions erecto to supino 3. Abdominal regions epigastric to quadrant 4. Body cavities abdominal to vertebral 5. Directional planes corono to tranverso	Identify and differentiate between body directions, planes, regions and cavities.	--Assigned Reading --Lecture/Discussion --Flash Card Practice

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	E. Surgical Terminology 1. Surgery Chirurgery to postoperative 2. Surgical asepsis Autoclave to sterility 3. Preoperative medication Hypodermic to parenteral 4. Anesthesia Anesthesia to unconsciousness F. Surgical Procedures Adenectomy to thoracoplasty G. Surgical Wound Healing Adhesion to keloid	The student will be able to: Translate introductory terminology unique to surgery.	--"Pop" Quiz --Written Assignments --Chalkboard Relay --Integrate With: -Anatomy and Physiology -Microbiology -Pathology --Cumulative Written Test
19	VIII. INTERPERSONAL RELATIONS A. Definition 1. Interpersonal, intrapersonal 2. Psychology 3. Communication 4. Attitudes 5. Behavior B. Basic Human Needs Maslow's hierarchy C. Human Behavior 1. Influences 2. Personality 3. Emotions	The student will be able to: Define terms, state the principle surrounding Maslow's theory and describe factors concerned with behavior.	--Assigned Reading --Lecture/Discussion --Conference --Role Playing
	D. Maintaining Emotional Homeostasis 1. Defense mechanisms 2. Reactions E. Stress 1. Definition 2. Defining the problem 3. Defining the goal 4. Factors relating to alienation 5. Factors relating to defensiveness	Define and describe emotional homeostasis and stress.	--Filmstrip: "The Anatomy of Stress" --Conference --Written Handout: -"Don't Step On Me"

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	F. Coping Measures 1. Attending, responding, personalizing 2. Factors related to reducing hostility and defensiveness 3. Developing trust, supportiveness 4. Helping 5. Identifying alternatives	The student will be able to: Explain coping measures helpful to modifying behavior (relative to stress).	--Assigned Reading --Lecture/Discussion --Role Playing
	G. Practicing Effective I.P.R. 1. Communication a. Verbal b. Non-verbal 2. Sending process 3. Channels 4. Receiving process 5. Skills of observation 6. Assertive behavior 7. Barriers to communication 8. Methods of interaction	Differentiate between verbal and non-verbal communication and describe the processes and methods of interaction concerned with practicing effective I.P.R.	--Filmstrip: -"Keys to Effective Communication" --Conference
	H. Team Communication 1. People problems 2. Task problems 3. Problem solving skills	Discuss team relationships, team communication and how to increase cooperation and cohesiveness.	--Presentation of Team Projects: -Brainstorming -Problem Solving Skills
	I. Increasing Cohesiveness 1. Commonalities 2. Salient values 3. Re-identification of goals 4. Rewards of team effort		
	J. Building Self-Esteem 1. Anchoring beliefs, values and attitudes 2. Being in charge of self 3. Developing a philosophy	Explain measures for building and maintaining self-esteem	--Presentation of Individual Projects
	K. Optimum Dedication to Patient Protection		--Written Cumulative Test: -"Interpersonal Relations"

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	L. Death and Dying 1. Emergency department death 2. May be student's first experience with death 3. Little time for interaction with patient 4. Little time for grief, loss counseling with families 5. Denial frequent	The student will be able to: Discuss incidents of death and dying in an emergency department on a Health Worker basis as well as a personal basis.	--Assigned Reading --Review I.P.R., Stress and Coping --Lecture/Discussion
	6. Behavior of family, significant others a. Rage b. Physical violence c. Shock d. Remorse and anger e. Quiet acceptance	Describe the varied behaviors of families and significant others.	--Conference: -"A Personal Point of View" --Role Playing: -Behaviors and Responses to Those Behaviors
	M. Implications of Verbal Communication and Touch N. Religious Comfort O. Family/Significant Others 1. Provide privacy, comfort and staff support 2. Viewing body encouraged 3. Patient's wishes regarding organ donation 4. Use of tranquilizers unwise	Identify and describe comforting measures.	
	P. O. R. Personnel 1. Provide for expression of anger, frustration, concerns 2. Feelings unexpressed for days are destructive 3. Reinforcement needed 4. Personal philosophy, convictions, coping measures 5. Expert technical skill does not replace "caring"	Discuss the needs and provisions made for O.R. personnel in dealing with death and dying.	--Assigned Reading --Lecture/Discussion

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	Q. Responsibilities	The student will be able to:	--Clinical Area Conference: -Death and Dying -O.R. Staff Responsibilities -Procedures for Caring for Body
	1. Supervisor notified stat		
	2. State law and hospital policy dictate how body is cared for	Explain the rationale and principles surrounding staff responsibilities following death of a patient.	
	3. Check identification and follow procedure book		
	4. Body should be refrigerated within one hour of death		
	5. Arrange for transportation		
	6. Release form signed by R.N.		
	7. Consideration in preventing others from seeing body and/or stretcher bearing it away		--Written Test: -"Death and Dying"
	R. Feelings Regarding Sexuality		
	1. Sexuality - definition		
	2. Issues: physical health problems	Define "sexuality" and explain how physical health problems relate to it.	--Written Assignment
	a. Colostomy		
	b. Mastectomy		--Reading Assignment
	c. Paralysis		
	d. Venereal disease		
	3. Reproduction		--Lecture/Discussion
	a. Contraception		
	b. Abortion		
	c. Infertility	Discuss/describe aspects of reproduction, sexual performance, sex role function and homosexuality.	
	4. Sexual performance		--Conference: -"Sexuality and the Patient"
	5. Sex role function		
	6. Homosexuality		
	S. Facilitating Communications		
	1. Being comfortable with subject	Explain measures of facilitating communications.	
	2. Being knowledgeable		
	3. Listening, receiving, understanding	Describe the process of referral.	--Review I.P.R. and Communication Skills
	4. Offering alternatives		
	5. Refer for professional counseling prn	Describe ways in which we express ourselves sexually.	
	T. Sexual Expression Involves More Than Physiologic Response		--Quiz: "Sexuality

TITLE OF COURSE: Safe Patient Care COURSE HOURS: 150

COURSE DESCRIPTION: This course is designed to include information concerning preoperative care of the surgical patient and fundamentals of anesthesia.

COURSE OBJECTIVES:

1) To develop understanding of the principles of physical and psychological preparation of the preoperative patient.
2) To develop basic knowledge concerning the mechanics and agents used in anesthetizing the patient.
3) To develop knowledge and the ability to perform all aspects of preparation preoperatively to meet the needs of the patient and the surgeon.

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
4	I. PREOPERATIVE PREPARATION AND CARE OF THE PATIENT A. Psychological Considerations	The student will be able to:	--Assigned Readings
	1. Fears a. Death b. Pain c. Anesthesia d. Mutilation e. Cancer f. Exposure g. Unknown 2. Anxieties a. Financial concerns b. Family concerns c. Job loss	Enumerate and explain psychological considerations of the preoperative patient as well as the Health Care Team's role/response to these factors.	--Lecture/Discussion --Role Playing: -Anxious Patient -Fearful Patient -Hostile Patient -Abusive Patient -Withdrawn Patient -Uncooperative Patient
	3. Special pediatric concerns a. Separation from family b. Anesthesia c. Fears of mutilation	Describe the special concerns of the pediatric patient.	--Pediatric Patients
	4. Behavior identification a. Uncooperative b. Regressive c. Resentful d. Hostile e. Withdrawn f. Depressed g. Dependent h. Suspicious i. Questioning j. Guilt, shame, punishment		
	B. Role of Health Care Team 1. Identify and understand 2. Listen 3. Comfort 4. Treat patient as person 5. Call by name 6. Explain procedures & actions 7. Reassure truthfully 8. Refer to social service, clergy, etc. 9. Use gentleness, kindness, firmness, prn 10. Optimum dedication to patient protection		--Role Playing: -Therapeutic Intervention by Health Care Team Members --Written Test: "Psychological Considerations for the Pre-op Patient"

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
4	II. EVALUATION OF THE PRE-OP PATIENT A. Necessary Routines 1. Hospitalization prior to surgery 2. Short Term Surgery 3. Family History 4. Personal History 5. Physical Examination a. Eye, ear, nose, throat b. Reflexes c. Heart d. Lungs e. Palpation, percussion, auscultation, inspection 6. Laboratory Evaluations a. Blood analysis C.B.C. b. Urinalysis 1. RBCs 2. WBCs 3. Cast cells 4. Protein 5. Glucose 6. Specific gravity 7. Other Tests a. Chest X-Ray b. Electrocardiogram 8. Forms and Permits a. Surgical permit b. Signed by patient or guardian c. Witnessed d. Signed before pre-op medication given e. Statement of patient's understanding	The student will be able to: Demonstrate understanding of the rationale for the patient undergoing laboratory evaluations, x-ray and EKG testing and the legal factors concerned with the surgical patient.	--Assigned Readings --Lecture/Discussion --Assignment - Written --Complete "Family History" and "Personal History" Forms --Conference Regarding Above Forms --Introduce equipment used for Physical Exam --Assigned Readings --Lecture/Discussion --Demonstration and Return Demos of Equipment Used and Procedures Followed for: -Blood Work -Urinalysis -Chest X-Ray -E.K.G. --Review Surgical Permits and Operative Forms --Review "Patient's Bill of Rights" --Test: "Evaluation of the Pre-op Patient"

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
6	III. ROUTINE PHYSICAL PROCEDURES	The student will be able to:	--Assigned Reading
	A. Shave Prep		
	B. Cleansing Enema	List the pre-op routines and explain the rationale for same.	
	C. N.P.O.		--Lecture/Discussion
	D. Bath		
	E. Sedation		
	F. Day of Surgery Checklist		--Complete Check Lists
	1. Vital signs		
	2. Dentures, eyeglasses, lenses		
	3. Hairpins, jewelry, prostheses		--Conference Regarding Above Check Lists
	4. Wedding band and religious medals		
	5. Make-up and nail polish		
	6. Bladder		--Role Playing: -Patient and Health Worker (incorporate communication skills)
	7. Pre-op medications		
	8. Side rails		
	9. O.R. cap and leggings		
	10. Recheck patient identification		
	G. Transportation to O.R.		--Demonstration and Return Demos Using Gurney to Transport Patient to Holding Area and then to O.R. Suite
	1. Gurney		
	2. Transfer safety		
	3. Tubes, catheters move with patient		
	4. I.V. bottles at foot		
	5. Restraint strap		
	6. Side rails		--Practice With Patient on Gurney
	7. Patient travels feet first		
	8. Head first in elevator		
	9. Pull gurney through swinging doors		
	H. Arrival in Surgery	Transfer a patient to the Holding Area and finally to the O.R. Suite and on to the O.R. table in the safe, prescribed manner.	
	1. Holding area greeting		--Demonstration and Return Demos: -Transferring patient from gurney to O.R. table
	2. Identification check		
	3. Chart check		
	a. Surgical check list		
	b. Surgical consent		
	I. Transfer to O.R. Table		
	1. Holding area to O.R. suite by gurney		--Practical Test
	2. Two people required for transfer		
	3. Safety aspects		
	a. Assist and receive patient		--Written Test
	b. Tubes/catheters		
	c. Restraint strap		

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
8	IV. ANESTHESIA A. Definition B. Types 1. Conduction 2. General C. Conduction 1. Local infiltration 2. Nerve block 3. Topical 4. Epidural 5. Caudal 6. Spinal D. Local 1. Injected into tissues 2. May be deep tissue if surgery not extensive 3. High levels are toxic 4. 25-30 gauge needles 5. Scrub person tallies amount 6. Scrub person refills syringe 7. Safety aspects a. No metal containers b. Epinephrine added c. Measuring d. Technique 8. Commonly used a. Procaine b. Lidocaine c. Mepivacaine d. Tetracaine	The student will be able to: Define anesthesia, differentiate between the two major methods and describe, in detail, six types of conduction anesthesia.	--Assigned Readings --Lecture/Discussion --Demonstration and Return Demos: -Use of syringes to measure and prepare medications --Practical Test --Written Test

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	E. Nerve Block 1. Large single nerve, nerves 2. Not necessarily at immediate surgical site 3. Nerve impulses do not reach brain 4. Surgery of fingers and toes 5. RX of tic douloureux, vascular insufficiency 6. Commonly used a. Lidocaine b. Mepivacaine c. Tetracaine F. Topical 1. Numbs superficial nerve endings 2. Mucous membrane 3. Swab, spray, drops 4. Endoscopic procedures 5. Commonly used a. Lidocaine b. Cocaine c. Tetracaine d. Benzocaine G. Epidural 1. Epidural space of spine 2. Bathes nerve roots 3. No contact between spinal fluid and anesthetic 4. Commonly used a. Procaine b. Lidocaine c. Mepivacaine d. Tetracaine	The student will be able to: Identify and prepare supplies and equipment used with conductive anesthesia.	--Assigned Readings --Demonstration and Return Demos: -Identifying and using supplies for swabbing, spraying, administering drops. . .. --Practical Test --Written Test

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	H. Caudal	The student will be able to:	--Assigned Readings
	1. Type of epidural		
	2. Ideal for obstetrics and perineal procedures	Describe in detail six ways of administering conduction anesthesia.	
	3. May be continuous		--Handout
	4. Commonly used		
	a. Procaine		
	b. Lidocaine		
	c. Mepivacaine		
	d. Tetracaine		
	I. Spinal		--Assignment Sheet
	1. Subarachnoid space at L 4 or 5		
	2. Agent does come in contact with spinal fluid		
	3. Positioning		
	a. Lateral		
	b. Orthopneic		
	4. Commonly used		--Demonstration and Return Demos: -Positioning patient for spinal anesthesia
	a. Lower pelvis surgery		
	b. Caesarean Section		
	c. Hernia repair		
	d. Surgery of lower extremities		--Practice Session
	5. Commonly used		
	a. Procaine		--Practical Test
	b. Lidocaine		
	c. Tetracaine		--Written Quiz

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
3	V. ADVERSE REACTIONS TO ANESTHESIA A. Conduction 1. High rate of allergies 2. Topicals, highest rate 3. Team members alert 4. Monitor vital signs every fifteen minutes during procedure 5. Not all sx. occur in all patients 6. Relative overdose most common complication 7. Sx. a. Signs of shock b. Sleepy, unresponsive patient c. Bradycardia or tachycardia d. Hypotension e. Fainting 8. Rx. a. Discontinue drug b. Oxygen c. C.P.R. prn	The student will be able to: List the signs and symptoms of adverse reactions to conductive anesthesia and the treatment for same.	--Assigned Readings --Lecture/Discussion --Written Assignment --Review C.P.R. --Quiz
3	VI. GENERAL ANESTHESIA A. Causes Unconsciousness B. Four Stages 1. Induction 2. Excitement 3. Surgical plane (relaxation) 4. Danger	The student will be able to: Describe general anesthesia, list and describe the stages of anesthesia, identify and describe the parts and mechanics of the gas machine.	--Reading Assignment --Lecture/Discussion

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	C. Methods of Administration 1. Gas machine a. Endotrachial tube or mask b. Rebreathing bag c. Closed circle system 2. Open drop method a. Wire mesh b. Inaccurate - seldom used c. Ether used traditionally 3. Intravenous a. Direct access to circulatory system b. Induction anesthesia c. Antibiotics and I.M. meds given d. Safety aspects		--Guest Speaker from Anesthesia Department --Inspection and identification of gas machine and its components --Inspection and identification of I.V. equipment and supplies --Practical Test
3	VII. GENERAL ANESTHETIC AGENTS A. Ether and Cyclopropane Discontinued B. Inhalation Method 1. Enflurane (Ethrane) 2. Halothane (Fluothane) 3. MethoxyFlurane (Penthrane) 4. Nitrous oxide commonly used C. I.V. and I.M. Methods 1. Innovar - I.V. or I.M. 2. Ketamine - I.V. or I.M. 3. Pentothal - I.V. D. Neuromuscular Blocking Agents 1. Commonly given during surgery 2. Given I.V. 3. Allow less anesthesia to be given 4. Commonly used a. Pavulon b. d-tubocurarine c. Flaxedil d. Anectine	The student will be able to: List and/or differentiate between inhalants and I.V., I.M. general anesthetics as well as distinguish from conduction anesthetics.	--Reading Assignment --Lecture/Discussion --Chalkboard Relay --Written Quiz: -"General Anesthetic Agents"

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
4	VIII.PRE-OP MEDICATIONS A. Characteristics 1. Given one hour pre-op 2. Relax patient 3. Smooth induction 4. Dry mucous membranes	The student will be able to: Name and describe the actions of pre-op medications.	--Assigned Reading
	B. Classifications 1. Barbiturates a. Hypnotics and sedatives b. Nembutal c. Seconal 2. Opiates a. Analgesics and narcotics b. Metapon c. Demerol d. Morphine 3. Belladonna a. Inhibit mucous secretions b. Atropine c. Scopolamine		--Lecture/Discussion --Written Assignment
	4. Tranquilizers a. Valium b. Vistaril c. Chlorpromazine 5. Safety aspects 6. Prevention and treatment of complications	List the safety aspects and the prevention and treatment measures employed for complications due to pre-op meds.	--Quiz: "Pre-op Meds"

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
2	IX. FIRE HAZARDS RELATED TO SURGERY A. Flammables Banned From O.R. B. Oxygen Elevates Risk of Fire C. Friction Causes Static Electricity D. Common Path of Conduction E. All Equipment Grounded 1. Conductive casters 2. Conductive rubber hoses F. Gas Lines Outside of Surgical Suite	The student will be able to: Rewrite fire code in own words.	--Reading Assignments --Lecture/Discussion --Assignment: Develop Fire Code for O.R. at Eli Whitney General Hospital.
2	X. CHOICE OF ANESTHETIC A. Factors Considered 1. Patient safety 2. Convenience of Surgeon 3. Patient comfort B. Conduction Anesthesia 1. Very young or very old cannot cooperate C. General Anesthesia 1. Debilitated patient not good risk	The student will be able to: State Factors considered regarding Anesthesia Selection	--Conference re-assignment --Written Cumulative Test: "Anesthesia"

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
10	XI. POSITIONING THE SURGICAL PATIENT	The student will be able to:	--Assigned Reading
	A. The O.R. Table 1. Manipulating 2. "Break the table" 3. Tilt, raise, lower 4. Removable sections 5. Surgical Technician must know how to manipulate table	Adjust and manipulate the Operating Room table.	--Lecture/Discussion --Demonstration and Return Demos regarding adjusting and manipulating the O.R. table.
	B. Moving Anesthetized Patient 1. Ask anesthesiologist's permission 2. Provide enough help 3. Pad bony prominences/delicate areas in contact with table 4. Manipulate joints gently 5. Avoid unnecessary exposure 6. Align neck and spine 7. Secure arm/hand in draw sheet 8. Move slowly and deliberately 9. Have accessories available before induction 10. Protect I.V. lines, catheters and airways from tension 11. Teamwork! 12. Use good body mechanics	Explain the guidelines for moving the anesthetized patient and describe the safety hazards involved in positioning.	--Practice sessions for adjusting O.R. table. --Practical Test: "Adjusting O.R. Table"
	C. Body Mechanics - Definition 1. Health workers concerned with patient safety and self 2. Use the proper muscles to do the job 3. Surgical Technician's job includes moving/lifting patients and equipment 4. Start with good posture 5. Keep back straight 6. Bend from knees and hips 7. Keep feet separated for good base of support 8. Use weight of body to help push or pull object 9. Avoid twisting body as you work 10. Ask for help prn. 11. Never move patient with spinal injuries	Define "Body Mechanics", demonstrate proper body mechanics and list the principles of good body mechanics.	--Assigned Reading --Lecture/Discussion --Practice: -Stand, Sit, Stoop, Reach, Bend, Lift, Push, Pull --Turn Patient Away --Turn Patient Toward --Pull Sheet --Practical Test --Written Test

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	D. Active/Passive Movements 1. A.D.L. performed habitually 2. R.O.M. achieved via work, exercise 3. Surgical patient requires help moving 4. Prosthesis possibilities 5. The need for moving E. Movements 1. Flexion 2. Extension 3. Abduction 4. Adduction 5. Rotation 6. Supination 7. Pronation 8. Inversion 9. Eversion 10. Circumduction	The student will be able to: Interpret A.D.L. and R.O.M. Describe in detail the need for moving. Define active and passive movements and demonstrate ten (10) basic movements.	--Practice exercising with emphasis on range of motion. --Assigned Reading --Lecture/Discussion --Demonstration and Return Demos of the ten (10) basic movements both actively and passively. --Practice Session --Practical Test --Written Test
8	XII. SURGICAL POSITIONS A. Supine (Dorsal Recumbent) B. Trendelenburg C. Reverse Trendelenburg D. Kraske (Jack-knife) E. Laminectomy F. Prone - Craniotomy G. Lithotomy H. Fowler's I. Sims - Lateral Chest, Lateral Kidney J. Orthopneic	The student will be able to: Demonstrate putting the patient into each surgical position in a safe, efficient manner and describe procedures for which each position is used.	--Review Handouts --Filmstrip - "Surgical Positions" --Demonstration and Return Demos for Surgical Positions --Practice Session --Practical Test

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
6	XIII. POSITIONING PRECAUTIONS A. Factors 1. Maximum safety and comfort 2. Accessible operative area 3. Administration of anesthesia B. Physiologic Effects 1. Respiratory system 2. Musculoskeletal system 3. Nervous system 4. Circulatory system C. Equipment for Positioning 1. O.R. table 2. Attachments (padding imperative) 3. Safety belt 4. Anesthesia screen 5. Wrist/arm strap 6. Sand bags 7. Armboard/double armboards 8. Elbow pads 9. Thyroid elevator 10. Shoulder braces/supports 11. Bolster (shoulder roll) 12. Elevating pads 13. Body rests/braces 14. Kidney rest 15. Stirrups 16. Footboard and head rest	The student will be able to: List the goals of patient positioning and describe the physiological effects of positioning imperative to the O.R. worker's knowledge and expertise.	--Lecture/Discussion --Demonstration and Return Demos Regarding Safety Aspects --Practice Sessions with Positioning Equipment --Practical Test --Cumulative Written Test

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
10	XIV. SKIN PREPARATION	The student will be able to:	--Assigned Reading
	A. Shave Prep and Scrub Prep Rationale	Explain the rationale and principles surrounding the shave prep and scrub prep.	
	B. Principles of the Shave Prep		
	1. Done in patient's room or prep room near surgery		--Lecture/Discussion
	2. Disposable prep trays		
	3. Patient explanation		
	4. Lighting		
	5. Communicate while laying on hands		
	6. Procedure		--Demonstration and Return Demos Regarding Shave Prep
	7. Safety aspects	Perform shave prep according to procedure.	
	8. Legal aspects		
	9. Leave patient dry and comfortable		
	C. The Scrub Prep - Principles		--Practice Session
	1. Performed by		
	2. Prior to surgery, past anesthesia		--Practical Test
	3. Sterile procedure	Perform scrub prep according to procedure.	--Demonstration and Return Demos Regarding Scrub Prep
	4. Scrub and paint agents		
	5. Safety aspects		
	D. Scrub Preps for Specified Areas		
	1. Flat surface		
	2. Elevated limb		
	3. Vagina		--Practice Sessions
	4. Anus		
	5. Breast biopsy		
	6. Eye		--Practical Test
	7. Ear		
	8. Face		
	9. Emergency		--Written Test

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
8	XV. DRAPING A. Purposes B. Principles C. Materials 1. Towels 2. Sheets 3. Plastics 4. Muslin 5. Paper 6. Tube stockinette	The student will be able to: Define draping and explain the purposes, principles and materials used in draping.	--Reading Assignment --Lecture/Discussion
	D. Drapes for Particular Procedures 1. Procedure drape 2. Laparotomy drape 3. Split sheet 4. Thyroid sheet 5. Perineal sheet 6. Eye or ear drape 7. Craniotomy sheet 8. Draping equipment E. Applying Drapes 1. Techniques 2. Procedure 3. Flexibility 4. Safety aspects	Assist with the draping procedure in at least three prescribed manners.	--Demonstration and Return Demos in: handling draping materials and assisting to drape --Practice Sessions --Practical Test --Written Test
8	XVI. VITAL SIGNS A. Indicate Patient's Condition B. Surgical Tech Performs on Patient Under Local C. T.P.R. and B.P.	The student will be able to: List and interpret the abbreviations for vital signs and explain the Surgical Technician's role in measuring the vital signs.	--Assigned Reading --Lecture/Discussion --Written Assignments

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	D. Temperature 1. Definition 2. Normal ranges - children and adults 3. Controlled by hypo-thalamus 4. Heat generated by food breakdown 5. Heat loss through skin, lungs, body discharges 6. Sweat glands and perspiration 7. Environment, clothing, activity, condition of body 8. Balance, homeostasis 9. Variations of temperature 10. Crisis, lysis	The student will be able to: Explain the mechanism of temperature, state the normal range, list factors affecting temp, and define homeostasis.	--Demonstration and Return Demos: -Read Thermometer -Shake Down -Take Oral Temperature -Take Rectal Temperature -Take Axillary Temperature -Record Temperature -Care of Thermometers --Practice Sessions
	E. Abnormalities 1. Febrile state 2. Signs, symptoms of fever 3. Common causes of fever 4. Hypothermia, hyperthermia 5. Implications for surgical patient	List and describe abnormalities associated with temperature. Explain implications concerning temperature and the surgical patient.	--Practical Test --Written Quiz
	F. Measuring Temperature 1. Equipment needed 2. Types of thermometers 3. Reading the thermometer 4. Shaking down the thermometer 5. Oral temperature 6. Rectal temperature 7. Axillary temperature 8. Groin, umbilical temperature 9. Techniques/procedures for measuring 10. Considerations for infants, child G. Recording Temperature Measurement H. Thermometer Care	Measure with 100% accuracy at least three (3) oral and three (3) rectal temperatures, record the readings and care for the thermometers after use.	--Assigned Reading --Lecture/Discussion --Written Assignments --Demonstration and Return Demos: -Reading Thermometers -Shaking Down Thermometers -Taking Oral Temperature -Taking Rectal Temperature -Taking Axillary Temperature -Recording Temperature -Care of Thermometers

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	I. 100% Accuracy	The student will be able to:	--Practice Sessions
	J. Safety Aspects 1. Contraindications for oral, rectal thermometer use 2. Thermometer safety 3. Disinfection process	List and explain safety factors relative to temperature measurement.	--Practical Test --Written Quiz
	K. Pulse Measurement 1. Definition, normal ranges 2. Review anatomy and physiology of circulatory system 3. Radial pulse 4. Temporal pulse 5. Carotid pulse 6. Brachial pulse 7. Apical pulse 8. Femoral pulse 9. Popliteal pulse 10. Dorsalis pedis 11. Neonates, children, adults L. Principles M. Techniques/Procedure N. Abnormalities 1. Weak, thready 2. Full, pounding 3. Irregular or intermittent 4. Bradycardia, tachycardia O. Accuracy P. Safety Aspects	Define pulse and list and demonstrate pulse pressure areas. Measure pulse rates to within 100% accuracy on at least four (4) people.	--Assigned Reading --Use Chart to Review "Heart" --Lecture/Discussion --Demonstration and Return Demos Regarding Measuring Pulse. --Practical Test --Written Test: "Measuring Pulse"
	Q. Respiration Measurement 1. Definition, normal ranges 2. Review anatomy and physiology of respiration 3. Principles of respiration 4. Technicques/procedure for measuring 5. Vital capacity, tidal volume	Define "respiration", list synonyms for breathing, explain mechanism of breathing and recite the normal ranges for neonates, children and adults. Measure respirations with 100% accuracy on at least four (4) people and recite the safety aspects regarding same.	--Assigned Reading --Use Chart to Review Anatomy and Physiology of Respiratory System. --Written Assignments --Demonstration and Return Demos Regarding Measuring Respirations.

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	R. Abnormalities 1. Dyspnea 2. Apnea 3. Cheyne-Stokes 4. Rales 5. Shallow 6. Accelerated 7. Cyanosis a. Nailbeds b. Circumoral S. Surgical Technician's Role in Observing T. Accuracy U. Safety Aspects	The student will be able to: Identify and differentiate between respiratory abnormalities and describe the role of the Surgical Technician in observing abnormalities.	--Practice Sessions --Practical Test, T.P.R. --Written Quiz --Cumulative Test, T.P.R.
6	XVII. BLOOD PRESSURE A. Part of Vital Signs B. Definition C. Normal Ranges 1. Adults 2. Children D. Review Anatomy and Physiology of Circulation 1. Heart contraction, relaxation 2. Atria and ventricles 3. Systole and diastole 4. Arterial elasticity 5. Circulation and respiration 6. Cardiac output 7. Tissue perfusion	The student will be able to: Define, state the normal ranges of and explain the physiology of blood pressure.	--Assigned Reading --Lecture/Discussion --Review Circulatory System
	E. Factors Influencing B.P. 1. Exercise 2. Diet 3. Stimulants/depressants 4. Emotional disturbance 5. Age 6. Weight 7. Blood volume 8. General condition	Explain how variables affect blood pressure.	--Written Assignment

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	F. Equipment 1. Sphygmomanometer a. mercury b. aneroid 2. Stethoscope	The student will be able to: Name and distinguish between the types of equipment used in measuring blood pressure.	--Demonstration and Return Demos: -Blood Pressure Equipment -Measuring Blood Pressure -Recording Blood Pressure
	G. Techniques/Procedure H. Deviations From Normal 1. Hypotension 2. Hypertension I. Accuracy	Measure Blood Pressure to an accuracy of 4 mm. Hg. on at least four (4) people.	--Cassette Tape, "The Sounds of Blood Pressure". --Practice Sessions --Practical Test
	J. Safety Aspects	List and explain safety concerns concerning measuring and recording Blood Pressure.	--Written Cumulative Test Regarding: "Vital Signs, T.P.R. and B.P."
2	XVIII. CATHETERIZATION OF THE BLADDER	The student will be able to:	--Reading Assignment
	A. Surgical Technician May Perform 1. Definition 2. Surgical Technician usually catheterizes female - easier 3. Strict aseptic technique	Explain the rationale concerning urinary catheterization.	--Lecture/Demonstration --Filmstrip, "Urinary Catheterization"
	B. Review Perineal Anatomy C. Rationale for Catheterization D. Doctor's Order	Explain the measures taken before catheterizing.	
	E. Necessary Equipment 1. Cath set 2. Gloves 3. Prep solutions 4. Lubrication 5. Basin or drainage bag		--Demonstration and Return Demos: -Equipment -Techniques/Procedure -Recording
	F. Explain to Patient If Conscious G. Techniques/Procedure H. Recording I. Safety Aspects	Demonstrate and explain the equipment, techniques and safety aspects related to urinary catheterization.	--Written Test: "Urinary Catheterization"

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
4	XIX. SPONGE AND NEEDLE COUNT A. Definition/Rationale B. May Include Instrument Count C. Performed By 1. Surgical Technician and R.N. 2. Two R.N.s D. Individual Counts of Each Sponge, Needle E. Counting Performed 1. Before incision 2. Before closing peritoneum 3. Before closing pleura 4. Before closing abdominal fascia 5. Before closing skin F. Principles and Guidelines G. Safety Factors H. Optimum Dedication to Patient Protection I. Measures to Locate Unaccountable Items J. Documentation, Recording K. Legal Aspects	The student will be able to: Define, give rationale and explain in detail the necessity for and implications of Sponge and Needle counts. Demonstrate how to perform "counts" with 100% accuracy. Demonstrate the measures taken to locate unaccountable items. Explain the legal aspects surrounding "counts" and O.R. personnel.	--Reading Assignment --Lecture/Discussion --Role Play Taking Counts: -Circulator -Surgical Technician --Practice Sessions --Role Play Looking For Unaccountable Items --Practice Sessions --Practical Test --Written Test
2	XX. SURGICAL SPECIMENS A. Definition and Rationale B. Delivery to Scrub Person C. Equipment Necessary D. Removing From Sterile Field E. Pathologist's Role 1. Stat examination 2. Routine examination F. Handling Specimens 1. All team members know procedures 2. Not handed on sponge 3. Keep moistened unless told otherwise 4. Multiple specimens	The student will be able to: Explain in detail the rationale surrounding surgical specimens Explain and demonstrate the Scrub person's role in receiving and further handling specimens.	--Assigned Reading --Lecture/Discussion --Role Play Receiving and Handling Specimens

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES

	G. Labelling and Identifying
	H. Preservatives
	I. All Tissue Foreign Matter Sent to Lab
	  1. Biopsies
	  2. Screws, plates, bullets
	J. Legal Aspects
		The student will be able to:
		Describe the legal implications surrounding surgical specimens.
			--Practice Session
			--Practical Test
			--Written Test

11	XXI. EMERGENCIES/UNEXPECTED EVENTS ALTERING ROUTINE
	A. Team Members Remain Alert and Composed
	B. Readiness to Respond to the Unusual
	C. Massive Hemorrhage
	  1. Definition
	  2. Causes
	  3. Rx: expose, arrest, replace
	  4. Additional supplies
	  5. Use knowledge, expertise and common sense
	D. Malignant Hyperthermia
	  1. Definition, cause
	  2. Rx: established procedures
	  3. Rationale of rx.
	  4. Being alert, astute, knowledgeable
		The student will be able to:
		Describe the role of O.R. personnel responding to massive hemorrhage, malignant hyperthermia and cardio-pulmonary arrest.
			--Assigned Reading
			--Lecture/Discussion

	E. Cardiopulmonary Arrest
	  1. Anesthesiologist's/Surgeon's role
	  2. Administering C.P.R.
	  3. Alarm system
	  4. O.R. personnel capable of performing C.P.R.
		Administer C.P.R. as an emergency life saving measure.	--Review C.P.R.
			--Written Test

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	F. Death of the Patient 1. Legal, medical definition 2. Surgeon's decision a. Pronouncement of death b. Delay death via artificial measures 3. Hospital policies concerning handling deceased a. Body b. Incident report 4. Responsible O.R. personnel know guidelines G. Power Failure 1. Alternative power source 2. Interim action 3. Personnel know location of flashlights 4. Circulator's responsibilities H. Fire 1. Announcement 2. Alternatives a. Stop procedure b. Evacuate c. Continue with procedure 3. Personnel required to know policies, specific duties 4. Evacuation of patients done quickly 5. Optimum dedication to patient protection	The student will be able to: Explain the measures taken in the event of a patient's death, power failure or fire.	--Classroom: -Assigned Reading -Review "Death and Dying" -Lecture/Discussion --Clinical Area: -Conference concerning: -"Death and Dying" --Guest Speaker: -Hospital Fire Marshall --Film --Clinical Area: -Conference Regarding: -Pertinent Hospital Policies -Location and Use of Fire Apparatus

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	I. Major Disaster: Triage 1. Definition 2. Classifications 3. Each employee has duty and station 4. Fire department, police department cooperation 5. Personnel required to know disaster plan and personal role 6. Personnel required to know designated areas, functions of areas 7. Spiritual comfort availability very important 8. City disaster plans and drills	The student will be able to: Explain the measures taken in the event of a major disaster.	--Classroom: -Assigned Reading -Lecture/Discussion -Written Assignment --Clinical Area: -Conference Regarding: -Specific Policies Relative to Emergency Measures --Written Cumulative Test: -"Emergencies/Unexpected Events"
24	XXII. AMERICAN RED CROSS FIRST AID COURSE	The student will be able to:	--Reading Assignment
	A. Introduction to First Aid 1. Definition 2. Rationale for giving 3. Value of training 4. General directions	Define First Aid, explain the rationale, value of training and list general directions	--Guest Lecturer --Film: Administering First Aid"
	B. Wounds 1. Definition 2. Common causes 3. Symptoms 4. First Aid for open wounds 5. First Aid for severe bleeding C. Preventing Contamination and Infection D. Bites E. Closed Wounds F. Preventing Wound Causing Accidents	Define "wound", list common causes of wounds, symptoms of and describe, while demonstrating, appropriate care of wounds.	

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	G. Specific Injuries 1. Eye injuries 2. Head injuries 3. Neck injuries 4. Chest wounds 5. Abdominal injuries 6. Back injuries 7. Injuries to genital organs 8. Injuries to legs and feet 9. Hand injuries 10. Blisters	The student will be able to: Describe while demonstrating how to care for specific wounds of the chest, abdomen, back, genital organs, legs and feet, hands and blisters.	--Demonstration/Return Demos: -Caring for: -Open and Closed Wounds -Severe Bleeding -Bites -Eye Injuries -Head Injuries -Neck Injuries
	H. Shock 1. Definition 2. Signs and symptoms 3. Causes 4. Treatment objectives 5. First Aid	Define and describe shock, list signs, symptoms and treatment of shock, and proceed with initial care of victim exhibiting the signs and symptoms of shock.	--Assigned Reading --Guest Lecturer --Discussion
	I. Respiratory Emergencies and Artificial Respiration 1. Definition 2. Causes of respiratory failure 3. Process of breathing 4. Artificial respiration 5. Prevention of respiratory accidents 6. Swimming safety tips 7. Boating safety tips	Review anatomy and physiology of respiratory system. Perform artificial respiration.	--Demonstrations and Return Demos: -Caring for: -Chest Wounds -Abdominal Injuries -Back Injuries -Genital Organ Injuries -Injuries to Legs and Feet -Hand Injuries -Blisters -Victim in Shock -Artificial Respiration on Manikin
	J. Swallowed Objects and Choking 1. Causes 2. Signs and symptoms 3. First Aid 4. Prevention 5. Heimlich manuever	State the causes and symptoms of airway obstruction and demonstrate the Heimlich maneuver.	--Practice Session - Graded --Assigned Reading --Guest Lecturer
	K. Poisoning 1. Definition 2. Causes 3. Signs and symptoms	Discuss poisonings, causative agents, signs and symptoms of, treatments and identify first aid procedures for poisonings.	--Discussion --Demonstration/Return Demos: -Heimlich Maneuver -Snake Poisoning -Insect Poisoning

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	L. Objectives for Treating Poisoning by Mouth 1. First Aid 2. Contact poisons 3. Prevention	The student will be able to: Identify the poison center in area.	
	M. Poisoning by Marine Life		
	N. Poisoning by Venomous Snakes		
	O. Poisoning by Insects		
	P. Prevention of Accidental Poisoning		
	Q. Drugs and Their Abuse 1. Definition 2. Identification of drug abuse 3. Classification of drugs	Discuss drug abuse and classification of drugs.	--Assigned Reading --Guest Lecturer --Conference: "Drug Abuse"
	R. Burns 1. Definition 2. Causes and affects 3. Classification 4. Extent and location 5. First Aid 6. Prevention of heat emergencies	Describe burns, causes and affects, classification and First Aid measures taken.	
	S. Frostbite and Cold Exposure 1. Frostbite 2. Cold exposure 3. Preventing injuries from extreme cold	Define frostbite and cold exposure and explain the First Aid treatment for them.	
	T. Heat Stroke, Heat Cramps, and Heat Exhaustion 1. Definition 2. Causes 3. Heat stroke 4. Heat cramps 5. Heat exhaustion	Differentiate between heat stroke, heat cramps and heat exhaustion	--Written Quiz

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	U. Sudden Illness 1. Heart attack 2. Stroke 3. Fainting 4. Convulsion 5. Epilepsy 6. Prevention of heart attack and apoplexy	The student will be able to: Differentiate between the sudden illnesses listed and state the First Aid measures applicable for each condition.	--Assigned Reading --Guest Lecturer --Demonstration and Return Demos: Regarding RX for: -Heart Attack -Stroke -Fainting -Convulsion -Dressings -Bandages -Combinations of Dressings and Bandages -Splints -Slings
	V. Dressings and Bandages 1. Dressings 2. Bandages 3. Combinations 4. Special pads 5. Applying bandages 6. First Aid Kit and supplies	Review surgical dressings and bandages.	
	W. Bone and Joint Injuries 1. Definitions 2. Fractures 3. Specific fractures 4. Dislocation 5. Sprains 6. Strains 7. Prevention of accidents resulting in musculo-skeletal injuries	Define and describe the types of fractures and state the First Aid procedures employed for bone and joint injuries.	--Practical Test
	X. Emergency Rescue and Short Distance Transfer 1. Definition 2. Indications for immediate rescue 3. Procedure 4. Methods of transfer	Define, give examples of immediate rescue situations and describe the procedure concerning same.	--Assigned Reading --Discussion --Guest Lecturer --Demonstration/Return Demos: -Transfer Methods
	Y. Radiation Hazards 1. Types of radiation a. X-ray b. Radium c. Nuclear 2. Effects of acute radiation 3. Principles	Relate the principles of radiation, differentiate between the three types and describe the effects of acute radiation	--Practical Test --Cumulative Written Test for First Aid Certification - American Red Cross

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
12	XXIII. CARDIOPULMONARY RESUSCITATION A. Definition, Factors for Giving B. Artificial Respiration 1. Mouth to mouth 2. Mouth to nose 3. Mouth to nose and mouth 4. Ambu-bag C. External Cardiac Massage 1. Position of hands 2. Patient position 3. Number of compressions 4. Correlation with artificial respirations 5. Adults, children and infants 6. One person C.P.R. and two person C.P.R. 7. Safety aspect	The student will be able to: Define, list the indications for, recite the procedure and perform C.P.R. on Resuscianne manikin.	--Assigned Reading --Guest Lecturer Discussion --Demonstration/Return Demos: -C.P.R. Techniques Alone or Working with Another --Practical Test --Written Test for C.P.R. certification by American Red Cross

COURSE TITLE: Intraoperative Techniques COURSE HOURS: 200

COURSE DESCRIPTION: This course is designed to provide information and principles to assist with intraoperative skill development in aseptic techniques, operating room routines, maintaining environmental control of the operative suite and personal cleanliness and dress of operating room staff.

COURSE OBJECTIVES:

1) To translate the principles of asepsis and surgical conscience into definite and appropriate patterns of behavior.
2) To develop understanding and expertise in using aseptic technique in general operative procedures.
3) To develop understanding and proficiency concerning the methods of sterilization, packing, storing and dispensing surgical supplies.
4) To develop understanding of the purpose and principles for maintaining environmental control of the operative suite.

HOURS	CONTENT	BEHOVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
2	I. ASEPTIC TECHNIQUE A. Definition B. Set of Standards C. Consequences Resulting from Poor Technique	The student will be able to: Define aseptic technique and explain the underlying principles/standards of asepsis as well as the consequences resulting from poor technique.	--Assigned Reading --Lecture/Discussion
4	II. Personnel Attire A. Scrub Suit 1. Material 2. Donning 3. Changing 4. Safety Aspects B. Cap 1. Types 2. Donning 3. Changing 4. Covers Hair and Sideburns 5. Safety Aspects C. Mask 1. Types 2. Donning, Changing 3. Never Dangling from Neck 4. Safety Aspects D. Shoes 1. Approved Types 2. Covers 3. Hazards and Safety Aspects	Describe the rationale for wearing surgical attire. Don Surgical Attire	--Demonstration and Return Demos: Donning Surgical Attire --Graded Practice Session --Written Quiz

OURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
4	III.PERSONAL HYGIENE A. Definition B. Conducive to Healthy Environment 1. Daily Bath, Frequent Shampoo 2. Fingernails Short, Unpolished 3. Excessive Make-up Avoided 4. Jewelry Not Worn 5. Deodorant 6. Dentition 7. Sources of Contamination C. Health and the Health Worker 1. Definition 2. Protect Self and Others 3. Habits Apply to Daily Life 4. Physical Exam 5. Dental Exam 6. Immunizations 7. Diet, Elimination 8. Sleep 9. Exercise, Recreation 10. Avoid Excesses 11. Work 12. Homeostasis	The student will be able to: Define and state the principles surrounding the Health Worker's personal hygiene. Define "health" and list and explain the characteristics which support optimum health.	--Assigned Reading --Lecture/Discussion --Conference --Written Quiz
4	IV. PERSONNEL A. Sterile Personnel Stay Within Sterile Area 1. Stay in room during case 2. Lead shield for X-Ray procedures B. Talking during surgery kept to a minimum C. Movement kept to minimum during surgery D. Nonsterile members do not reach over sterile area E. Sterile team members face each other and sterile field	The student will be able to: Describe and discuss the limitations of activities within the sterile area.	--Assigned Reading --Lecture/Discussion --Role Play Appropriate and Inappropriate Activities in an O.R. Student Appraisal of Same

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	F. Equipment 1. Sterilization 2. Principles of using sterile equipment 3. Areas of sterility a. gowns b. wrappers c. surfaces d. items	Describe and discuss the principles of: using sterile equipment and areas of sterility.	--Practice identifying areas of sterility --Practical Test --Written Test
35	V. METHODS THAT MAINTAIN ASEPSIS A. The Scrub 1. Definition 2. Principles 3. Performed by all sterile team members 4. Two methods 5. Equipment 6. Technique/Procedure	The student will be able to: Define, state principles of and perform surgical scrub.	--Assigned Reading --Lecture/Discussion --Filmstrip: "Scrubbing, Gowning, and Gloving"
	B. Drying 1. Position of arms, hands 2. Principles 3. Technique/Procedure	Explain principles of drying hands and arms while performing procedure.	--Demonstration and Return Demos: --Scrubbing --Drying --Gowning - self and another --Gloving - closed --Gloving - open --Gloving - another
	C. Gowning Self 1. Principles 2. Technique/Procedure 3. Circulator's role	Explain and demonstrate how to put on sterile surgical gown.	
	D. Gloving Self 1. Closed Technique 2. Insure Sterility 3. Use Routinely	Explain and demonstrate how to use closed method of gloving self.	--Practice Session --Practical Testing
	E. Gloving Self 1. Open Technique 2. Used when only hands need to be covered 3. Not used routinely for gowning and gloving	Explain and demonstrate how to use open method of gloving self.	--Written Test

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	F. Removing Gloves Aseptically 1. Principles Technique/Procedure G. Distribution of Sterile Goods 1. Importance of packaging and wrapping 2. Large pack, central fold 3. Small pack, envelope style 4. Peel back wrapper 5. Pour sterile solutions into sterile basins	The student will be able to: Explain the principles of removing gloves aseptically while performing same. Explain importance of wrapping for sterilization. Demonstrate how to wrap various sizes and shapes for sterilization and unwrap sterile items. Demonstrate how to pour sterile solution into sterile basin.	--Demonstrate and return Demos in removing gloves aseptically. --Assigned Reading --Lecture/Discussion --Demonstration and return Demos regarding: -wrapping for sterilization -unwrapping sterile items -pouring solution into basin --Practical Test --Written Quiz
4	VI. CASE CLASSIFICATION A. Ranking of Cases 1. Post-op infection risk 2. Amount/Source of bacteria in wound B. Clean Case 1. No break in aseptic technique 2. No wound inflammation 3. No entry of respiratory digestive or G.U. tract C. Clean Contaminated Case 1. Minor break in technique occurred 2. Procedures of G.I., respiratory, vagina, G.U. tract D. Contaminated Case 1. Extensive spillage from G.I. tract 2. Fresh traumatic wound 3. Major break in asepsis	The student will be able to: Discuss case classifications and differentiate between the four case types and explain terminal decontamination	--Assigned Reading --Lecture/Discussion --Written Assignments --Filmstrip, "Cleaning the Operating Room" -Discussion

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	E. Infected Case 1. Known infection 2. Septic case routine outdated 3. Terminal decontamination		
	F. Terminal Decontamination 1. Washer-sterilizer 2. Equipment disinfected 3. Housekeeping decontaminates		--Written Quiz
20	VII. PRINCIPLES OF STERILIZATION	The student will be able to:	--Assigned Reading
	A. Concept of Sterility B. Definition C. Methods 1. Steam under pressure 2. Ethylene oxide gas 3. Ionizing radiation D. Chemicals Used As Disinfectants E. Terms 1. Antiseptic 2. Bacteriostatic 3. Contaminant 4. Disinfectant 5. Infection 6. Autoclave	Define sterilization and accompanying vocabulary, list the acceptable methods of sterilization, explain why liquid chemicals are not considered sterilizing agents.	--Lecture/Discussion
	F. Steam Under Pressure 1. Most common method 2. Action of moist heat 3. Destruction of microbes 4. Temp, pressure, time	Explain in detail the principles and mechanics of the steam under pressure method of sterilizing.	--Demonstration and Return Demos identifying parts of autoclave.
	G. Types of Steam Sterilizers 1. Gravity displacement 2. Prevacuum sterilizer	Explain and differentiate between the gravity displacement and prevacuum sterilizer.	
	H. Gravity Displacement 1. Air is heavier than steam 2. Inner chamber, outer jacket 3. Flash sterilization 4. Air pockets	Explain, while demonstrating, the various parts of the autoclave.	

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	I. Prevacuum Sterilizer 1. Principle of vacuum compared to gravity 2. Advantage of preventing air pockets 3. Advantage of great penetrating abilities	The student will be able to: Explain and differentiate between the two (2) types of steam sterilizers.	--Assigned Reading --Lecture/Discussion
	J. Loading Steam Sterilizers 1. Critical to sterilization 2. Techniques/Procedure 3. Acceptable measurements and density 4. Temperature - time standards 5. Checking manufacturer's specifications	Load the autoclave while explaining the principles relative to same. List and explain the safety aspects concerned with sterilization by autoclave.	--Demonstration/Return Demos of Loading the Autoclave --Demonstration/Return Demos Regarding Operating Autoclave
	K. Precautions and Safety Aspects 1. Built in---however 2. Opening and closing door 3. Know steam shut-off valve 4. Removing goods 5. Sterility indicators 6. Flash sterilizing precautions 7. Must know equipment	List materials sterilized by autoclaving, load the autoclave and operate it to 100% accuracy.	--Practice Sessions
	L. Materials Sterilized by This Method 1. Stainless steel instruments 2. Metal basins 3. Fabric 4. Rubber Items 5. Glassware 6. Orthopedic implants 7. Teflon and Silastic items		--Practical Test
	M. Operating the Autoclave		--Written Quiz: Autoclave
	N. Sterilization By Radiation 1. Pre-packaged items 2. Sutures, sponges, disposable drapes 3. Safety aspects	List items sterilized by radiation.	

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	O. Gas Sterilization - EO Method 1. Definition, rationale 2. Principles 3. Advantages, disadvantages 4. Safety aspects 5. Done in Central Services 6. Must know principles and safety aspects	The student will be able to: Explain the basic principles regarding gas sterilization including the advantages, disadvantages and safety aspects relative to same.	--Required Reading --Tour, lecture, demonstration in Central Supply area of hospital.
	P. Materials Sterilized By EO Method 1. Fiberoptics 2. Woven silk catheters 3. Plastic items 4. Electrical supplies 5. Vascular implants	List articles sterilized by this method with emphasis placed on necessity of aeration following sterilization.	--Written Quiz - "Gas and Radiation Sterilization"
6	VIII. DISINFECTANTS A. Definition B. Advantages C. Major Uses in O.R. 1. Floors, Furniture, Equipment 2. Surgical instruments D. Safety Aspects E. Types	The student will be able to: Define and differentiate between disinfectants and antiseptics, and state the major uses of both.	--Assigned Reading --Lecture/Discussion --Demonstration and Return Demos: Disinfecting an Endoscope
	F. Procedure For Disinfecting Endoscopes	Disinfect an endoscope.	--Demonstration Regarding: -Cidex -Alcohol -Phisohex -Wescodyne
	G. Antiseptics, Definition H. Uses 1. Pre-op skin cleanser 2. Pre-op scrub for personnel I. Safety Aspects J. Types Commonly Used	List and categorize brand names of disinfectants and antiseptics. Explain the safety aspects concerned with the use of disinfectants and antiseptics.	--Written Quiz - "Disinfection and Antiseption"

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
6	IX.PREPARING SUPPLIES FOR STERILIZATION A. Steam Sterilization 1. Instruments - Open/Disassemble 2. Metal basins - separate by towel 3. Glass syringes 4. Hollow objects B. Gas Sterilization 1. Goods must be dry 2. Specified plastic wrappers prn 3. Labelling C. Radiation 1. Pre-packaged 2. Single use only	The student will be able to: Describe and demonstrate how to prepare supplies for sterilization.	--Assigned Reading --Lecture/Discussion --Demonstration and Return Demos in preparing supplies for sterilization.
	D. Sterility Indicators and Process Monitors 1. Sterilization effectiveness 2. Tape method 3. Paper strips 4. Glass vials 5. Biological controls 6. J.C.A.H. recommendations	Name and describe types of process monitors.	--Practice Session --Written Quiz: "Preparation of Supplies for Sterilization"
2	X. STERILE ITEMS - SHELF LIFE A. Definitions B. Principles C. Dating Items D. Integrity of Wrapper E. Atmospheric Conditions F. Handling Packs	The student will be able to: Describe in detail principles and considerations of shelf life relative to dating, atmospheric conditions, integrity of wrappers and handling of sterile packs	--Assigned Reading --Lecture/Discussion --Spontaneous Quiz: "Shelf Life of Sterile Items"

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
15	XI. MAINTAINING ENVIRONMENTAL CONTROL A. Efficiency 1. Personnel 2. Physical organization of O.R.	The student will be able to: Describe the pre-requisite design of an O.R. department and discuss the functions of each of the areas within the department.	--Assigned Reading --Review "O.R. Personnel" organization
	B. Design of the O.R. 1. Simple, easy to clean 2. Prevent cross contamination 3. Clean, unclean areas 4. Safe transportation areas 5. Control of in and out traffic 6. Recovery room in close proximity		--Lecture/Discussion
	C. Areas Within Department 1. Supervisor's office 2. Recovery room (P.A.R.) 3. Dressing rooms 4. Holding area 5. Substerile rooms 6. Scrub sink areas 7. Workroom 8. Sterile supply room 9. Storage areas 10. Anesthesia supply room		--Clinical Area: Orientation tour followed by conference at which students identify areas.
	D. The Operating Suite 1. Definition 2. Enough room to move about 3. Easy to clean 4. Sufficient lighting	List the characteristics of the O R. Suite.	
	E. O.R. Suite Equipment 1. Wall clock with sweep hand 2. Intercom system 3. X-Ray viewing boxes 4. Electrical outlets 5. Lights 6. O.R. table 7. Mayo stand 8. Back table 9. Anesthesia equipment 10. Supply cabinets 11. Ring stands 12. Kick bucket	List/identify equipment commonly found in O.R. Suite and describe function for each piece of equipment.	--Assigned Reading --Lecture/Discussion --Demonstration/Return Demos: Identify equipment in lab as well as in Clinical Area - give function for each.

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	F. Know Equipment G. Environmental Control 1. Set by J.C.A.H. 2. National Fire Protection Association	Identify J.C.A.H. and tell functions of it and the National Fire Protection Association.	--Practice Session --Practical Quiz
	H. Standards 1. Temperature 2. Humidity 3. Frequent air changes I. Optimum Dedication to Patient Protection	Explain in detail the standards set for the O.R. Suite	--Written Test: "Maintaining Environmental Control"
6	XII. INCISIONS A. Surgeon's Choice B. Anatomical Location C. Maximum Exposure D. Speed, Emergency Measure E. Maximal Post-op Wound Strength F. Minimal Post-op Discomfort G. Cosmetic Effect H. Tissue Layers - Skin to Peritoneum	The student will be able to: Explain the rationale regarding incision selection.	--Assigned Reading --Lecture/Discussion --Chalkboard Relay
	I. Types and Locations 1. Subcostal 2. Abdominal median 3. Paramedian 4. McBurney 5. Oblique 6. Pfannenstiel 7. Transverse 8. Horizontal Flank	List and describe the types and locations of surgical incisions.	--Written Assignments --Quiz: "Incisions"

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
8	XIII. WOUND CLOSURE AND HEALING A. Mechanisms of Wound Closing B. Suturing Layers C. Methods of Suturing D. Wound Healing Begins When Incision is Made E. History of Wound Management 1. Egyptians to Halsted F. Substrate Phase 1. 1-4 days 2. Hemostasis G. Proliferative Phase 1. 5 to 20 days 2. Wound contraction H. Remodeling Phase 1. Last phase, 21st day on 2. Original strength regained	The student will be able to: Discuss briefly the history of wound management and list and describe the phases of wound healing.	--Review suture materials and suturing techniques. --Assigned Reading --Lecture/Discussion --Written Assignments
	I. Classification of Wound Healing 1. First, second, third intention 2. Second suture, delayed primary closure J. Influential Factors 1. Age, weight, nutrition, general health 2. Immune responses 3. Drug therapy, radiation	Identify and describe the classification of wound healing and factors which influence wound healing.	--Written Quiz: "Wound Closure and Healing"
4	XIV. HEMOSTASIS A. Definition B. Methods 1. Body's defense mechanisms 2. Artificial means	The student will be able to: Define hemostases and explain briefly the body's mechanisms to achieve hemostosis	--Assigned Reading --Lecture/Discussion

HOURS		CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
		C. During Surgery 1. Clamp 2. Ligature 3. Stick tie 4. Electro coagulation 5. Manual pressure 6. Styptics 7. Bonewax 8. Thrombin 9. Gelfoam 10. Oxidized cellulose 11. Hemoclip 12. Heat 13. Vitamin K 14. Tourniquet	The student will be able to: Explain the methods used during surgery to achieve hemostosis.	--Written Assignments --Conference and Demo Regarding: "Supplies Used for Hemostasis" --Quiz: "Hemostasis"
50	XV.	SURGERY ROUTINES A. Preparation for Case - Surgical Technician 1. Check surgical schedule 2. Check surgeon's preference card 3. Gather supplies, equipment 4. Pick, pull supplies 5. Autoclave instruments as necessary 6. Communicate with circulator B. Preparation of Suite 1. Housekeeping duties 2. Check lights and suction 3. Communicate with circulator C. Opening Supplies 1. Time factor 2. Amount to be set up 3. Techniques of opening 4. Safety aspects 5. Communicate with circulator D. Scrub Per Procedure E. Gown and Glove Per Aseptic Technique	The student will be able to: Outline, describe, and perform the step-by-step procedures toward preparing for a case. Demonstrate and explain housekeeping duties expected of surgical team members. Explain and demonstrate how to open supplies, which supplies are to be opened and safety aspects concerned with same.	--Assigned Reading --Lecture/Discussion --Handout: "Setting Up For Surgery" --Filmstrip: "Setting Up The O.R." --Demonstrations/Return Demos: Step-By-Step Process of Case Preparation --Review Housekeeping Department's Duties --Practice Housekeeping Duties Inherent in Surgical Technology --Practice Opening Supplies, Bundles --Practice "Flipping" Supplies --Practice Sessions --Review Scrub Procedure --Review Gowning and Gloving Procedure --Segmented Practical Testing

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	F. Set Up Back Table G. Drape Mayo Stand H. Set Up Work Area 1. Identify sutures and arrange 2. Count as early as possible I. Set Up Prep Table J. Obtain Sterile Instruments 1. Cool before handling 2. Body mechanics 3. Pad sterile table 4. Count as early as possible 5. Safety aspects K. Be Aware, Alert to Patient, What is Happening L. Set Up Instruments 1. Mayo Stand 2. Back Table M. Arrange Draping Materials In Order of Use N. Gown and Glove Surgical Team O. Readiness After Prep P. Hand Draping Materials Q. Suction and Bovie on Field-Affix R. Two Sponges on Field S. Scalpel and Clamps in Readiness	The student will be able to: Explain and demonstrate how to set up a Back Table, drape a Mayo Stand, arrange sutures and complete the Suture/Needle count. Explain and demonstrate how to set up a Prep Table. Demonstrate and explain the safety aspects concerning bringing sterile instruments from autoclave to sterile table. Demonstrate and explain setting up instruments on Mayo Stand and Back Table. Demonstrate how to arrange draping materials in sequence. Demonstrate and explain how to hand draping materials in sequence, affix bovie and suction and have material in readiness for case.	--Lecture/Discussion/Demonstration and Return Demos: a) Back Table set-up (linens & supplies) b) Drape Mayo Stand c) Arrange Sutures d) Review "Counting" e) Prep Table Set-Up f) Taking instruments out of Autoclave g) Bringing Instruments to the Table h) Review "Counting" i) Set Up Mayo Stand with Instruments j) Set Up Instruments on Back Table k) Arrange Draping Materials --Practice Sessions --Practical Testing --Review Gowning and Gloving Others --Filmstrip: "Setting Up The O.R." --Lecture/Discussion/Demonstration and Return Demos: -Handing Draping Materials -Placing and Affixing Suction and Bovie -Sponges on Field -Snaps in Readiness --Practice Sessions --Practical Testing: Segmented and Cumulative Regarding Setting Up For Surgery. --Written Test - Cumulative Regarding "Setting Up For Surgery"

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
30	XVI. INTRAOPERATIVE MANAGEMENT A. Look, Listen, Anticipate B. Communicate With Circulator C. Associate What Is Being Done With What Will Be Needed D. Two Clean Sponges On Field E. Aware of Sponges Being Used	The student will be able to: Explain the step by step procedures for intraoperative management and the Surgical Technician's role.	--Assigned Reading --Lecture/Discussion/Demonstration and Return Demos: Continuity of intra-op care, step by step procedures mock-up of surgical situation.
	F. Handing Instruments 1. Slap with pressure 2. No need for readjustment 3. Safety aspects G. Handing Sutures 1. One to one basis 2. All must be returned 3. Remove remnants from field 4. Suture book 5. Needle, blade book 6. Safety aspects	Demonstrate how to make a suture book and using the needle/blade book.	--Review Handing, Passing Instruments --Review Safety Aspects of Instruments --Demonstration and Return Demos: -Make Suture Book -Use Needle/Blade Book --Review Safety Aspects of Sutures
	H. Operative Field 1. Neat, clean, dry 2. Wound, field, mayo, back table 3. Scrub and circulator visualize counts 4. Safety aspects	Demonstrate how to count from wound to back table with 100% accuracy.	--Review Safety Aspects of Counts --Demonstration and Return Demos of Counting From Wound Back --Practice Session --Practical Testing
	I. Specimens 1. Identification 2. Desired exam 3. Receptacle 4. Give to circulator with Surgeon's permission 5. All specs sent to lab	Explain and demonstrate procedure for caring for specimens	--Review care of Specimens --Assigned Reading --Lecture/Discussion/Demonstration and Return Demos: -Specimen Care
	J. Advocacy 1. Tactful reminders, leaning on patient 2. Team technique	Use communication skills effectively in advocating for patient	-Advocacy - Role play -Duties during closing

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	K. Closure 1. Prepare suture, drains 2. Accept dressing sponges after count 3. Prepare instruments for decontamination 4. Remain sterile - with table - until patient leaves room	The student will be able to: Explain and prepare supplies for closing. Explain in detail the scrub person's role until patient leaves O.R. Suite.	--Practice Session --Lecture/Discussion/Demonstration and Return Demos: -Role during closure -Post-op cleanup
	L. Post-Op Cleanup 1. Glove hands 2. Breakdown back table 3. Safety aspects 4. Team work 5. Germicide table and remake 6. Germicide horizontal surfaces 7. Optimum dedication to patient protection	Demonstrate how to clean up O.R. Suite.	--Practice Sessions --Practical Test --Written Test: "Intraoperative Management"

COURSE TITLE: Supplies and Equipment COURSE HOURS: 130

COURSE DESCRIPTION: This course includes an introduction to instrumentation, sutures, needles and other routinely used accessory supplies.

COURSE OBJECTIVES:

1) To develop understanding of the various classifications of instruments, sutures and needles that are used in operating procedures.
2) To understand the various types of surgical packings and dressings, catheters, drains, tubes and collecting mechanisms.
3) To develop sound principles concerning the use of routine accessory supplies in surgery.
4) To provide opportunity for practice in using accessory supplies.

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
50	I. INSTRUMENTATION A. Definition B. Classifications C. Cutting, Dissecting 1. Scissors 2. Scalpels 3. Osteotomes 4. Curettes 5. Chisels 6. Biopsy punches 7. Saws 8. Drills 9. Needles	The student will be able to: Define "instrumentation", list the categories of instruments and categorize them according to type.	--Assigned Reading --Lecture/Discussion/Demonstration of Instrumentation --Practice Sessions with Instruments Labeled According to Category Only.
	D. Grasping and Clamping 1. Hemostatic clamps 2. Needle holders 3. Tenaculi E. Retracting Instruments 1. For all parts of the body 2. Sizes 3. Hand held 4. Self-retaining F. Probing and Dilating 1. Probes enter lumen 2. Dilators increase diameter of lumen	Explain the functions of disecting instruments, grasping/clamping instruments, retractors and probes and dilators.	--Practical Test --Written Test
	G. Identifiable Parts of an Instrument 1. Points, tips close tightly 2. Jaws, hold securely 3. Serration 4. Box lock, hinge joint 5. Shank, between box lock and finger ring 6. Ratchets	Demonstrate and explain the parts of an instrument.	--Assigned Reading --Lecture/Discussion
	H. Testing for Defects 1. Check frequently 2. Send for repair	Demonstrate how to test instruments for defects.	--Demonstration and Return Demos Regarding: -Parts of an Instrument -How to Test Instruments for Defects

OURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	I. Care of Instruments 1. Expensive, require care 2. Handle gently 3. Sharp edges must not touch metal surfaces 4. No soaking in saline 5. Wipe blood 6. Right instrument for right job	The student will be able to: Explain how to care for instrumentation.	--Practice Session --Practical Quiz --Written Quiz
	J. Care of Instruments After Surgery 1. Decontaminate right after surgery 2. Process all instruments from case 3. Use appropriate technique	Explain how to care for instruments after a case.	--Assigned Reading
	K. Processing Stainless Steel Instruments 1. Costly, delicate 2. Shortcuts shorten life span 3. Do not wash by hand a. Health hazard to personnel b. Time consuming, inefficient 4. Use washer sterilizer 5. Ultrasonic cleaning (cavitation) 6. pH important 7. Lubricate before wrapping 8. Water soluble lubricant 9. Manufacturer's recommendations 10. Safety aspects	Describe and process stainless steel instruments	--Lecture/Discussion --Demonstration/Return Demos in Caring for Instruments --Practice Session --Practical Quiz --Written Quiz

OURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	L. Commonly Used Surgical Instruments 1. Scalpel handles, numbered 2. Blades, numbered 3. Scissors a. Bandage b. Mayo c. Metzenbaum 4. Thumb forceps a. Toothed b. Plain c. Cushing d. Russian e. Adson 5. Retractors a. Army-navy b. Vein c. Senn d. Goulet e. Parker	The student will be able to: Identify the commonly used surgical instruments and categorize according to classifications.	--Assigned Reading --Review Instrumentation Classifications --Lecture/Discussion/Demonstration Return Demos Regarding: -Scalpel Handles -Blades -Thumb Forceps -Retractors --Practice Sessions - Name, Label, Put in Appropriate Classification Slot. --Practical Quiz --Written Quiz
	f. Small, large rake g. Richardson h. Israel i. Malleable j. Appendectomy k. Deaver l. Harrington m. Balfour n. Weitlaner 6. Hemostatic clamps a. Mosquito b. Pean c. Schnidt-tonsil d. Kelly e. Kocher-Oschner f. Crile 7. Needle holders 8. Suction tips a. Poole b. Yankauer c. Andrews	Identify the commonly used instruments and categorize according to classification	--Assigned Reading --Review Instrumentation Classification --Lecture/Discussion/Demonstration and Return Demos Regarding: -Hemostats -Needle Holders -Suction Tips -Miscellaneous

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	9. Miscellaneous a. Towel clamp b. Sponge forceps c. Grooved director d. Pennington e. Allis f. Probe, malleable g. Trochar h. Scoops i. Dilators j. Uterine packing forceps k. Tenaculum	The student will be able to:	--Practice Sessions -Give Name of Instrument -Label Instrument -Put Instrument in Appropriate Classification Slot --Practical Quiz --Written Cumulative Test: -"Commonly Used Surgical Instruments"
	10. Handling and passing instruments a. Passing b. Hand signals c. Anticipating needs d. Techniques, procedures	Respond to hand signals and/or verbal requests for instruments and pass them appropriately.	--Demonstration and Return Demos: -Putting Blade on Handle -Passing Instruments -Hand Signals -Anticipating Needs -Techniques --Practical Test
20	II. SUTURE A. Definition, Functions B. Types 1. Absorbable a. Catgut - Plain, Chromic b. Synthetic 2. Non-Absorbable a. Cotton b. Polyester c. Nylon d. Polypropylene e. Steel C. Sizing and Packaging D. Application of Suture 1. Surgeon's preference 2. Healing time 3. Suture strength 4. Principles 5. Techniques	The student will be able to: Define "suture", describe its functions and list the types of absorbable and non-absorbable suture material. Identify and differentiate between the various types of suture material Explain the rationale for suture sizing and describe the methods and rationale regarding packaging sutures.	--Assigned Reading --Lecture/Discussion --Field Trip to Ethicon, Inc. -Guest Speaker: -Ethicon Representative --Demonstration/Return Demos: -Idenitfying Types of Suture -Suture Sizing -Handling Suture -Handing to Surgeon

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	E. Preparation and Handling Suture 1. Costly 2. Protection of material 3. Handling techniques a. Cotton b. Nylon and polypropylene c. Steel d. Gut	The student will be able to: Explain the principles concerning preparation, handling and suturing techniques. Demonstrate how to hand (pass) suture.	--Practice Sessions --Practical Quiz --Written Test
20	III. SURGICAL NEEDLES A. Definition, Functions B. Classification 1. Shape 2. Type of point C. Shape 1. Amount of curvature 2. Fully curved on needle holder 3. Straight held in hand D. Point and Shaft 1. Point determined by tissue delicacy 2. Taper, cutting, inverted points 3. Shaft, cutting or smooth 4. Hundreds of types E. Needle Eye 1. Definition 2. Designed for minimal trauma 3. Eye, rectangular or square 4. French eye 5. Atraumatic, eyeless 6. Suture release 7. Double-arm	The student will be able to: Explain the definition and functions of surgical needles. Identify and differentiate between the classifications of needles	--Assigned Reading --Lecture/Discussion --Guest Speaker - Ethicon, Inc. --Demonstration/Return Demos: -Classifications of Needles -Curved -Straight -Tapered -French Eye -Atraumatic -Suture-Release -Double-Arm --Practice Sessions --Practical Quiz --Written Quiz

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	F. Surgeon's Preference G. Mounting the Needle H. Threading the Needle I. Passing the Needle Holder J. Methods of Suturing 1. Running stitch 2. Interrupted 3. Advantages, disadvantages 4. Principles 5. Retention suture and bolsters, bumpers 6. Suture ligature 7. Purse string K. Nonsuture Products 1. Sterile tapes 2. Wound clips 3. Ligation clips 4. Stapling instruments 5. Principles 6. Techniques/procedures for handling and passing to surgeon	The student will be able to: Mount and thread the needle and pass it on the needle holder. Identify and explain the principles and methods of suturing. Explain the principles surrounding non-suture products and demonstrate at least three (3) different types. Demonstrate how to pass non-suture products.	--Assigned Reading --Lecture/Discussion --Guest Speaker, Ethicon, Inc. --Demonstration and Return Demos Regarding: -Mount and Thread Needle -Pass Needle on Holder -Sterile Tapes -Wound Clips -Ligation Clips -Stapling Instruments -How to Pass Non-Suture Products --Practice Sessions --Practical Quiz --Written Cumulative Test: -"Surgical Needles and Non-Suture Products"
4	IV. ACCESSORY SUPPLIES A. Electrosurgical Unit B. Definition, Functions C. Equipment D. Types 1. Monopolar 2. Bipolar E. Safety Aspects F. Application, Procedure 1. Scrub person's role 2. Circulator's role	The student will be able to: Explain the function, types and safety considerations of the electrocautery unit. Demonstrate the scrub person's and circulator's role regarding the Bovie.	--Assigned Reading --Lecture/Discussion --Demonstration and Return Demos: -Bovie -Suction

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
4	V. SUCTION EQUIPMENT A. Functions B. Common Uses C. Types D. Safety Aspects E. Techniques, Procedures F. Role of Scrub, Circulator	The student will be able to: Explain the functions, types and safety concerned with suction apparatus. Demonstrate the role of the scrub person and circulator regarding suction.	--Review C.P.R.
2	VI. DEFIBRILLATOR A. Definition, Principles B. Function C. Equipment D. Procedure E. Safety Aspects	The student will be able to: Explain the use and safety aspects of the defibrillator	--Clinical Area: -Demonstration of: -Defibrillator -Fiberoptic -Light Source -Headlight
1	VII. FIBEROPTIC LIGHT SOURCE A. Definition B. Function C. Safety Aspects	The student will be able to: Explain the functions and differentiate between the Fiberoptic light source and the headlight.	--Practical Testing
1	VIII. HEADLIGHT A. Uses, Types B. Safety Aspects		--Written Test
3	IX. OPERATING MICROSCOPE A. Definition, Function B. Common Uses C. Draping Practice	The student will be able to: Explain, differentiate between and give the safety aspects for surgical microscopes and loupes	--Reading Assignment

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
1	X. SURGICAL LOUPES A. Definition, Function B. Uses C. Worn by Surgeon, Scrub Person	The student will be able to: Explain, differentiate between and give the safety aspects for surgical microscopes and loupes.	--Lecture/Discussion --Conference in Clinical Area with Demonstration of Equipment.
1	XI. NITROGEN TANK AND REGULATOR A. Function, Uses B. O.R. Personnel's Role C. Procedure D. Safety Aspects	The student will be able to: Explain the function, procedure and safety aspects regarding compressed nitrogen as a power source.	↓
2	XII. PNEUMATIC TOURNIQUET A. Definition, Function B. Common Uses C. Technique/Procedure D. Safety Aspects	The student will be able to: Describe the procedure and safety aspects of applying a pneumatic tourniquet.	--Demonstration and Return Demos: -Penrose -Hemovac -Malecot -Pezzer -Catheters and Tubing -Suction Tips and Tubing
3	XIII. WOUND DRAINS AND TUBES A. Functions B. Principles C. Types D. Techniques, Procedures E. Safety Aspects	The student will be able to: Identify and explain the functions of drains and tubes, differentiate between and state procedures for handling suction tip and tubing.	--Demonstration and Return Demos: -Radiopaque -Lap sponges -4 x 4's -Dissectors
3	XIV. SURGICAL SPONGES A. Functions B. Types C. Synonyms D. Safety Aspects	The student will be able to: Differentiate between various types of sponges and dissectors and state the uses as well as safety aspects.	

OURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
2	XV. DRESSINGS A. Functions B. Types C. Techniques/Procedures D. Safety Aspects	The student will be able to: Define, state the functions, types and safety aspects of dressings.	--Review First Aid --Demonstration and Return Demos: -Wound Dressings -Packings -Limb Dressings -Attach Needle to Syringe -Aspirate Fluid -Remove Air -Read with 100% Accuracy -Bulb Syringe Techniques
2	XVI. SYRINGES AND NEEDLES A. Definition B. Uses C. Types D. Techniques/Procedures E. Safety Aspects	The student will be able to: Demonstrate how to manipulate and read a syringe, differentiate sizes and describe safety considerations when using syringes and needles.	
1	XVII.NERVE LOCATOR A. Definition, Function B. Common Uses C. Techniques, Procedures D. Safety Aspects	The student will be able to: Discuss and describe the nerve locator as used in surgery.	--Clinical Area Conference: -Demonstrate Nerve Locator and Camera.
1	XVIII.CAMERA A. Uses B. Sterilization	The student will be able to: Discuss uses of the camera in surgery.	--Demonstration and Return Demos: -Cover X-Ray Cassette Maintaining Aseptic Technique.
2	XIX. X-RAY CASSETTE COVER A. Function B. Maintaining Asepsis C. Technique, Procedure	The student will be able to: Demonstrate and explain procedure for covering X-Ray cassette while maintaining aseptic technique.	--Practical Quiz

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
2	XX. DERMATOMES A. Definition, Function B. Integral Parts C. Types 1. Oscillating blade 2. Drum D. Safety Aspects E. Care and Sterilization	The student will be able to: Define and state the functions and safety aspects of dermatomes, orthopedic saws, physiologic monitors and cryotherapy units.	--Lecture/Discussion --Clinical Area -Conference and Demonstration - Specialized Equipment inclusive of: -Dermatomes -Orthopedic Saws -Physiologic Monitors -Cryotherapy Units
1	XXI. ORTHOPEDIC SAWS A. Definition, Functions B. Integral Parts C. Types 1. Reciprocating 2. Oscillating 3. Gigli D. Safety Aspects E. Sterilization		
3	XXII. PHYSIOLOGIC MONITORS A. Definition, Functions B. Types 1. Stethoscopy 2. Blood Pressure 3. Temperature 4. ECG and EEG 5. Safety		
1	XXIII. CRYOTHERAPY UNITS A. Definition, Functions B. Types C. Hazards D. Safety Aspects		--Practical Testing

COURSE TITLE: Basic Sciences

COURSE HOURS: 300

COURSE DESCRIPTION: This course introduces the student to principles of the biological and physical sciences that contribute to understanding human body processes: Anatomy, Physiology, Microbiology, Pathology, Surgical Pharmacology, Weights and Measures, and Basic Nutrition.

COURSE OBJECTIVES:

1) To assist in understanding the principles concerning disease causation, prevention of disease and the composition of matter.
2) To assist in understanding normal structure and function of the human body in order to generate understanding of deviations from the normal.
3) To develop awareness of the correlation between adequate nutrition and optimum health for patients and Health Workers.
4) To orient the student to the basics of Surgical Pharmacology and the role of the Surgical Technician in dealing with medications used in surgery.
5) To familiarize the student with background information identifying pioneers in Surgery.

OURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
3	I. ANATOMY AND PHYSIOLOGY	The student will be able to:	--Pre-Test
	A. Definition and Terminology 1. Science 2. Anatomy 3. Physiology 4. Biology 5. Histology 6. Microbiology 7. Chemistry 8. Physics 9. Pathology	Define terms listed.	--Assigned Reading --Lecture/Discussion
	B. The Body as a Whole 1. General plan 2. Body cavities 3. Organization of body	Describe the body as a whole in terms of organization and cavities.	--Written Assignments
	C. Structural Units 1. Cell 2. Tissues 3. Organs 4. Systems	Define structural units of the body.	--Conference - The Necessity of Surgical Technicians Having Basic Understanding of Anatomy and Physiology
	D. Homeostasis 1. Definition 2. Body fluids 3. Methods of transport a. Filtration b. Diffusion c. Osmosis	Define and describe homeostasis, function and composition of body fluids and differentiate between filtration, diffusion and osmosis.	--Instructional Chart --Written Quiz

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
9	II. CELLS, TISSUES AND MEMBRANES	The student will be able to:	--Assigned Reading
	A. Simple Cell - Definition 1. Structures 2. Functions 3. Simple Cell Division	Define "cell", list and give the function of each part of the simple cell, state the functions of cells, and explain mitosis.	--Lecture/Discussion
	B. Types of Cells 1. Nerve 2. Muscle 3. Blood 4. Bone 5. Brain 6. Lung C. Commonalities, Differences	Describe/discuss the various types of cells and their commonalities and differences.	--Filmstrip: -"Cells, Tissues, and Organs"
	D. Nutrients for Homeostasis E. Edema, Dehydration F. Filtration, Osmosis, Diffusion	List the nutrients and explain why they are important to cellular homeostasis.	--Written Assignments
	G. Tissues - Definition 1. Epithelial a. Skin, hair, nails b. Protection c. Lines body tubes and digestive system	Define "tissue", explain epithelial tissue, its locations, its functions.	
	2. Connective a. Bone, cartilage, fibrous, vascular, interspaces b. Supports, anchors, holds together	Explain connective tissue's locations and functions.	--Assigned Reading
	3. Muscle tissue a. Smooth, skeletal, cardiac b. Provides for movement, pumps blood 4. Nervous tissue a. Brain, spinal cord, nerves b. Carries impulses	Define muscle and nervous tissues, name locations of both types and functions of both types of tissue.	--Lecture Discussion

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	H. Membranes - Definition 1. General characteristics 2. Two broad categories a. Epithelial b. Connective tissue 3. Mucous, serous membranes 4. Fascial, skeletal membranes 5. Functions 6. Omentum 7. Peritoneum 8. Mesentary 9. Pleurae 10. Pericardium 11. Mesothelium 12. Perichondrium	The student will be able to: Define "membrane", describe the general characteristics of membranes, and define the types of membranes listed.	--Written Assignments --Instructional Chart --Cumulative Test: -"Cells, Tissues, Membranes"
10	III. INTEGUMENTARY SYSTEM A. Definition B. Structure 1. Epidermis 2. Dermis 3. Subcutaneous layer 4. Glands 5. Hair, nails C. Function 1. Protection 2. Regulation of temperature 3. Sensory organ 4. Excretory function	The student will be able to: Define, explain the structures and functions of the integumentary system with special emphasis on surgical implications	--Assigned Reading --Lecture/Discussion --Conference - Implications of Integumentary System and: -Scrubbing for Surgery -Shave Prepping Patient -Scrub Prepping Patient -Donning O.R. Apparel
	D. Observation 1. Pigmentation 2. Discoloration 3. Injuries 4. Diseases	List and describe points to evaluate when observing the skin.	

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	E. Care 1. Cleanliness 2. Preserve/restore 3. Invasion of pathogens a. Residential b. Transient	The student will be able to: Describe in detail proper care of skin, hair, nails relative to Surgical Technology.	--Written Assignment
	F. Nutrition 1. Vitamin A 2. Riboflavin 3. Niacin		--Test: Integumentary System
12	IV. SKELETAL SYSTEM A. Definition B. General Functions 1. Framework for shape 2. Framework for muscle attachment 3. Protects internal organs 4. Manufactures blood cells 5. Works with muscular system to achieve mobility	The student will be able to: Define and list the functions of the skeletal system.	--Assigned Reading --Lecture/Discussion --Filmstrip: Skeletal System
	C. Classification of Bones 1. Long 2. Short 3. Flat 4. Irregular	List and give examples of the four (4) classifications of bones.	--Instructional Chart --Conference: -Describe Bone Cells, Bone Tissues
	D. Bone Development 1. Cartilage 2. Membranes E. Structure of Long Bones	Discuss bone development relative to cartilage and membranes and label the structures of a long bone.	--Demonstrate Types of Instruments used for Surgical Procedures of Bone.
	F. Bone Markings 1. Openings, depressions 2. Processes, projections	Identify bone markings on diagram.	
	G. Joints 1. Description 2. Types 3. Movements	Define and describe types of joints and their movements; integrate terminology - Example: Arthroscopy.	--Written Assignment

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	H. Bone Groups and Location 1. Cranium a. Bones b. Sutures c. Fontanels 2. Face a. Bones b. Sinuses 3. Spine a. Vertebra b. Curves 4. Thorax 5. Shoulder girdle 6. Upper extremities 7. Lower extremeties 8. Pelvic girdle	The student will be able to: List and/or identify major bones of the axial and appendicular skeletons.	--Instructional Skeleton --Chalkboard Relay --Conference: -Positioning Patients for Surgery -Attention to Joints and Articulations
	I. Nutrition 1. Calcium 2. Phosphorus 3. Vitamins A, C, D		--Written Test: -The Skeletal System
12	V. MUSCULAR SYSTEM A. General Functions 1. Locomotion 2. Changes in position 3. Changes in size of openings 4. Propulsion of substances through tubes 5. Survival 6. Maintenance of posture 7. Production of large portion of body heat	The student will be able to: List and explain the general functions of the Muscular System.	--Reading Assignment --Filmstrip: "The Muscular System" --Lecture/Discussion
	B. Classification 1. Skeletal 2. Smooth 3. Cardiac	List and give examples of the three major classifications of muscle.	

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	C. Special Characteristics 1. Irritability 2. Contractility 3. Conductivity 4. Extensibility 5. Elasticity	The student will be able to: Explain the special abilities of muscle tissue.	--Conference: -The Surgical Technician and Body Mechanics -Active and Passive Movements -Range of Motion
	D. Characteristics of Skeletal Muscle 1. Structure 2. Control - nervous system 3. Energy - from glycogen 4. Fatigue 5. Actions	Describe in detail the characteristics of skeletal muscle.	--Demonstrate Skeletal Muscle Movements
	E. Kinds of Contraction 1. Twitch 2. Tetanic 3. Tonic 4. Isotonic 5. Isometric 6. Fibrillation	Define muscle tone and differentiate between the kinds of contraction.	--Instructional Chart --Crossword Puzzle
	F. Muscle Tone Definition		
	G. Muscle Attachments 1. Ligaments 2. Tendons 3. Origin 4. Insertion	Explain ligaments and tendons as to type of tissue and functions. Identify the origin and insertion of a muscle.	--Conference: -Review Five (5) Tissue Layers with Emphasis on Musculature. -Demonstrate Instruments used on Same.
	H. Important Muscles 1. Quadriceps Femoris 2. Triceps 3. Pectoralis major 4. Gluteus maximus 5. Rectus abdominus 6. Gastrocnemius 7. Hamstring group 8. Intercostals 9. Achilles' tendon 10. Biceps 11. Trapezius 12. Sternocleidomastoid 13. Lattisimus dorsi 14. Deltoid	Locate and state the msucle action for which each is responsible (i.e. flexion, extension, etc.)	
	I. Protein - Build and Repair Muscle Tissue		--Test: The Muscular System

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
10	VI. RESPIRATORY SYSTEM A. Functions B. Organs of Respiration C. Internal, External, Cellular Respiration D. Ranges of Normal Rates 1. Neonate 2. Child 3. Adult E. Variations Affecting Respiration F. Deviations From Normal G. Complications of Respiration H. Respiration and the Surgical Patient 1. Measure quantity, quality 2. Intubation, anesthesia 3. Heart-Lung machine 4. Respiratory emergencies 5. Rx I. Principles of Nutrition Relative to Respiration	The student will be able to: Define, state the purposes of and list the organs of respiration. Explain and differentiate between internal, external and cellular respiration. Review the ranges of normal respiratory rates. List and explain deviations and complications of respiration. Explain the implications of respiration as applied to the surgical patient. Review total nutrition relative to the respiratory system.	--Assigned Reading --Lecture/Discussion --Filmstrip: "The Respiratory System" --Instructional Chart --Written Assignments --Conference: Respiration and its Implications for the Surgical Patient --Written Test: -"The Respiratory System"
12	VII. THE GENITO-URINARY SYSTEM A. Definition, Functions B. Organs 1. Structure 2. Function C. Systems of Excretion 1. Urinary 2. Digestive 3. Respiratory 4. Integumentary D. Terminology	The student will be able to: Define, list the functions and identify the organs contained in the G.U. System. Review other systems/organs of excretion. Integrate terminology with ongoing information.	--Assigned Reading --Filmstrip: "The Urinary System" --Lecture/Discussion --Instructional Chart

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	E. Urinalysis 1. Components 2. Functions of components 3. Relative to surgical patient F. Complications G. Accessory Supplies 1. Catheters 2. Collection containers H. The Urinary System and The Surgical Patient I. Principles of Nutrition Relative to the G.U. System	The student will be able to: Describe the important constituents of urine and the necessity for pre-op urinalysis. Differentiate between the various deviations and complications of this system. Review accessory supplies commonly used with patients undergoing surgery. Relate principles of nutrition to the G.U. System.	--Conference: -Urinary Supplies and Equipment --Written Assignments --Written Test: -"The Genito-Urinary System"
20	VIII.THE CIRCULATORY SYSTEM A. Definition, Functions B. Circulatory Organs 1. Location 2. Functions C. Structures of the Heart D. Pulmonary Circulation E. Systemic Circulation F. Conduction System G. Blood 1. Composition 2. Volume 3. Blood clotting 4. Blood types 5. Blood tests H. Blood Vessels 1. Types 2. Structures and Functions I. Blood Pressure, Pulse, Vital Signs	The student will be able to: Define, explain the functions of the system and list and describe the organs of the circulatory system. Identify and label structures of the heart describing their functions. Explain the heart's conduction system, pulmonary and systemic circulation. Describe in detail the volume and composition of blood, blood types and differentiate between blood tests. Define and describe veins, arteries, capillaries and describe their functions.	--Reading Assignment --Filmstrip: "The Circulatory System" --Lecture/Discussion --Written Assignments --Conference: -Cardiac and Circulatory Considerations for the Pre-op Patient --Demonstrate Supplies Used for Blood Testing

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	J. Deviations From Normal K. The Circulatory System and The Surgical Patient L. Nutritional Considerations	The student will be able to: Review blood pressure and pulse and vital signs. Differentiate between given circulatory deviations and/or complications relative to the pre-operative patient. Discuss nutrition as it relates to the circulatory system.	--Each Student Tests Own Blood Ad Lib. --Written Test: -"The Circulatory System"
10	IX. THE LYMPHATIC SYSTEM A. Definition, Functions B. Lymphatic Circulation 1. Complements blood circulation 2. Resembles venous circulation C. Lymph Vessels 1. Lymph nodes 2. Lymph capillaries 3. Lymphatics 4. Left and right lymphatic ducts D. Lymph 1. Definition 2. Composition E. Nodes, Lymphoid Tissue 1. Structure, functions 2. Tonsils 3. Thymus gland 4. Spleen F. Deviations From Normal G. The Pre-op Patient and Lymphatic Considerations H. Nutritional Considerations	The student will be able to: Define, list the functions of the Lymphatic System. Explain the structures, their locations and functions concerning the lymphatic system. Describe "lymph" and its composition, functions. Discuss lymphoid tissue and structures composed of it. Differentiate between deviations and complications of the lymphatic system. Discuss general nutrition relative to the lymphatic system.	--Reading Assignment --Filmstrip: "The Lymphatic System" --Lecture/Discussion --Instructional Chart --Conference: -The Pre-op Patient With Lymphatic System Considerations. --Written Assignments --Written Test: -"The Lymphatic System"

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
20	X. THE CENTRAL NERVOUS SYSTEM A. Definition, Functions B. Nerves C. Headquarters of C.N.S. D. C.N.S. Operations 1. Neuron 2. Dendrites 3. Axons 4. Synapses E. Sensory Nerves F. Motor Mechanisms G. Cranium and Spinal Cord H. Cranial Nerves, 12 Pair I. Spinal Nerves, 31 Pair J. The Cerebrum 1. Structures 2. Functions K. Cerebellum L. Pons M. Medulla N. Peripheral Nervous System O. Autonomic Nervous System P. Deviations From Normal Q. Nutritional Aspects	The student will be able to: Define and state the functions of the C.N.S. Define "nerves" and list their structures and functions. Discuss and differentiate between sensory nerves, cranial nerves. Describe the anatomy and physiology of the cranium, spinal cord, meninges, the cerebrum, cerebellum and accessory structures. Differentiate between the peripheral and autonomic nervous systems. Discuss abnormalities, implications for pre-op patients and nutritional considerations of the C.N.S.	--Assigned Readings --Filmstrip: -"The Central Nervous System" --Lecture, Discussion --Instructional Chart --Guest Speaker -Conference: -The Surgical Patient with a C.N.S. Disorder. --Written Assignments --Written Test: -"The Central Nervous System"
9	XI. THE SENSORY SYSTEM A. Definition, Functions B. Structure and Function of Sensory Receptors C. Classification of Sensory Receptors 1. External environment 2. Balance 3. Viscera	The student will be able to: Define and list the functions of the Sensory System. List the senses according to classifications of receptors.	--Assigned Reading --Filmstrip: -"The Sensory System" --Lecture/Discussion

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	D. Six Senses E. The Eye 1. Structures 2. Functions 3. Errors in refraction 4. Deviations from normal F. The Ear 1. Structures 2. Functions 3. Deviations from normal 4. Common complications G. Taste - Tongue Receptors H. Touch - Tactile Corpuscles I. Pain - Non-Adaptive, Protects J. Position - Muscles and Semi-Circular Canals K. Smell - Olfactory Nerve L. Hunger, Appetite M. Thirst N. General Senses 1. Pressure 2. Temperature	The student will be able to: Describe the function of the eye, its structures, their functions, and locations. Differentiate between refractive errors, List complications and deviations from the normal in terms of the surgical patient. Describe the structures (and functions of each structure) of the ear. Differentiate between ear complications. Discuss receptors for: taste, touch, pain, position, smell, hunger, thirst, pressure and temperature as they relate to the surgical patient.	--Models of Eye and Ear --Conference: -The Six Senses and The Surgical Patient --Written Assignments --Written Test: -"The Sensory System"
16	XII.DIGESTIVE SYSTEM A. Definition, Functions B. Components 1. Alimentary canal 2. Accessory organs	The student will be able to: List the components of the digestive system, state their location and functions.	--Reading Assignment --Filmstrip: "The Digestive System" --Lecture/Discussion

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	C. Alimentary Canal 1. Oral cavity 2. Pharynx 3. Stomach 4. Small intestine 5. Large intestine 6. Rectum, anus 7. Disorders D. Accessory Organs of Digestion 1. Liver 2. Gallbladder 3. Pancreas 4. Peritoneum 5. Disorders E. Nutrition 1. Balanced diet 2. Malnutrition	The student will be able to: Differentiate between the alimentary canal disorders as they relate to surgical procedures. Differentiate between the disorders of the accessory organs of digestion and describe the surgical implications. Explain the rationale of proper nutrition for proper digestion.	--Instructional Chart --Conference: -Instruments and Surgical Supplies Used for Patients Having Surgery of the Digestive System --Written Assignments --Written Test: -"The Digestive System"
12	XIII. THE REPRODUCTIVE SYSTEM A. Reproduction 1. Asexual 2. Sexual B. Male Reproductive System 1. Structures 2. Functions 3. Disorders C. Female Reproductive System 1. Structures 2. Functions 3. Disorders	The student will be able to: Discuss sexual and asexual reproduction, list the structures and functions of the male and female reproductive systems.	--Assigned Reading --Lecure/Discussion --Filmstrip: -"The Reproductive System" --Instructional Chart

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	D. Pregnancy 1. Stages of pregnancy 2. Development of embryo 3. The fetus 4. The mother 5. Childbirth 6. Lactation 7. Multiple births 8. Disorders E. Menopause 1. Definition 2. Treatment 3. Disorders	The student will be able to: Identify the stages of pregnancy, describe basic embryonic development, the fetus and mother. Describe the stages of labor, normal childbirth, Caeserian Section, and disorders of childbirth. Discuss menopause and outstanding characteristics of it.	--Conference: Labor and Delivery --Written Assignments --Written Test: -"The Reproductive System"
12	XIV.THE ENDOCRINE SYSTEM A. Glands and Hormones 1. External secretions 2. Internal secretions 3. Exocrine glands 4. Endocrine glands B. Thyroid Gland 1. Location 2. Functions 3. Disorders 4. Treatments C. Sex Glands 1. Ovaries 2. Testes D. Parathyroid Glands 1. Location, functions 2. Disorders, treatments E. Pituitary Gland 1. Anterior lobe 2. Posterior lobe 3. Disorders, treatments	The student will be able to: Define and describe hormones, secretions, types of glands. Discuss the thyroid, sex glands, and parathyroid glands as to location, functions and disorders.	--Assigned Reading --Filmstrip: -"The Endocrine System" --Lecture/Discussion --Instructional Chart

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	F. Pancreas 1. Location, functions 2. Disorders, treatments G. Adrenal Glands 1. Adrenal medulla 2. Adrenal cortex 3. Disorders, treatments H. Thymus and Pineal Body 1. Location and functions 2. Functions and treatments	The student will be able to: Discuss the pituitary gland, pancreas, adrenals, thymus gland as to location, functions and disorders.	--Conference: -Surgical Implications Concerning the Endocrine System. --Written Assignments --Written Test: -"The Endocrine System"
30	XV.MICROBIOLOGY AND PATHOLOGY A. Sciences B. Discovery of Microorganisms 1. Animalcules 2. Vaccination 3. Sterilization 4. Penicillin 5. Vaccines	The student will be able to: Define microbiology and pathology and briefly discuss the history of discovering microorganisms.	--Assigned Reading --Lecture/Discussion --Filmstrip: "Basic Concepts of Microbiology"
	C. History of the Microscope 1. Structures 2. Functions 3. Procedure for operating	Describe the structures and functions of a microscope and demonstrate how to use it.	--Demonstration and Return Demos: -Using the Microscope
	D. Microorganism or Protist E. Description of Microorganism 1. Fungi (yeast, molds) 2. Protozoa (amoeba) 3. Rickettsia 4. Bacteria (cocci, bacilli, spirochete) 5. Virus	Differentiate between the types of microorganisms listed.	--Practical Test -Using the Microscope

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	F. Microorganisms Producing Disease	The student will be able to:	--Written Assignments
	1. Types of bacteria which produce disease a. Aerobic b. Anerobic c. Saphrophytes d. Pathogens e. Parasites	Describe the types of bacteria that produce disease.	--Quiz
	2. Requirements to produce disease a. Virulence b. Proper environment (host) c. Entry of organisms 3. Growth and reproduction of bacteria 4. Spore formers	List and explain the requirements to produce disease, explain the growth and reproduction of bacteria and discuss at length "spore formers".	--Assigned Reading
	G. Laboratory Identification of Microbes 1. Acid-fast organisms 2. Gram stain 3. Culturing 4. Fermentation 5. Serology	Differentiate between the types of lab procedures.	--Lecture/Discussion
	H. Etiology of Disease 1. Definition 2. Specific or predisposing causes 3. Trauma-physical or chemical 4. Genetic disorders 5. Congenital defects 6. Parasites 7. Obstruction 8. Deficiency diseases 9. Degenerative diseases 10. Neoplasms 11. Infections	Explain the multi-facets of the etiology of disease.	--Written Assignments --Quiz

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
15	XVI. PATHOLOGY A. Definition B. Changes Produced By Disease 1. Changes in cell structure 2. Functional changes 3. Chemical changes C. Body Defenses Against Illness and Injury 1. External 2. Internal 3. Immunity	The student will be able to: Define pathology, explain the cellular changes which produce disease and describe the body's defenses against illness and injury.	--Reading Assignment --Lecture/Discussion --Conference: -Laboratory Identification Methods -Spore Formers -Review Sterilization, Disinfection, Antisepsis
	D. Transmission of Disease 1. Direct 2. Indirect 3. Food, water, air, dust 4. Domestic animals 5. Insects and vermin 6. Human carriers E. Portals of Entry 1. Respiratory tract 2. Alimentary tract 3. Genito-Urinary tract 4. Skin F. Methods of Control 1. Sterilization 2. Antisepsis 3. Disinfection	Explain disease transmission in depth, list and describe the portals of entry and review methods of controlling microorganisms.	--Written Assignments --Cumulative Written Test: -"Microbiology and Pathology"

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
20	XVII.CHEMISTRY	The student will be able to:	--Assigned Reading
	A. Definition		
	B. Principles	Define chemistry and explain the far reaching effects of chemistry.	
	1. Digestion of food		
	2. Action of hormones		
	3. Chemical changes in cells		
	4. Acid-base balance		--Lecture/Discussion
	5. Pharmacology		
	6. Lab tests		
	C. Matter and Energy	Differentiate between the types of matter and energy and between physical properties and chemical properties.	
	1. Solids		
	2. Liquids		
	3. Gases		
	4. Elements		--Written Assignments
	5. Compounds		
	6. Mixtures		
	D. Physical and Chemical Properties		
	E. Electron Theory		
	1. Electrons	Discuss the Electron Theory in terms of X-rays	
	2. Protons		
	3. Neutrons		
	F. Unstable or Radioactive Elements		
	1. Alpha, beta, gamma rays		--Quiz
	2. Heat		
	G. Heat, A Form of Energy	Distinguish between heat measurements and describe same.	
	1. Fahrenheit		--Assigned Reading
	2. Celsius		
	3. Calories		--Lecture/Discussion
	4. Vaporization		
	H. Acids	Describe properties of acids and bases as they relate to pH.	
	1. Properties		
	2. Examples		--Oral Questions
	I. Bases		
	1. Properties		
	2. Examples		

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	J. pH 1. Neutral = 7 2. Acid = less than 7 3. Alkaline = more than 7 4. Blood, alkaline 5. Gastric Juice, acid 6. Saliva, neutral	The student will be able to:	--Written Assignments
	K. Solutions 1. Solvent 2. Solute	Review osmosis, filtration and diffusion relative to solutions.	
	L. Oxygen 1. Properties 2. Uses M. Nitrogen 1. Properties 2. Uses	List the properties and uses of oxygen and nitrogen	--Cumulative Test: -"Chemistry"
12	XVIII. IMMUNITY, VACCINES AND SERUMS A. Infection 1. Portal of entry 2. Virulence of pathogen 3. Number of pathogens 4. Resistance of body	The student will be able to: List and describe the characteristics concerning infection and the body's defense mechanisms against disease.	--Assigned Reading
	B. Defense Against Disease 1. Skin and mucous membranes 2. Reflex actions 3. Phagocytosis 4. Inflammation 5. Immunity specifics		--Lecture/Discussion
	C. Immune Process 1. Antigen-antibody reaction 2. Immunity process D. Types of Immunity 1. Inborn or acquired 2. Natural or artificial 3. Active or passive	Explain the immune process, types of immunity and circumstances surrounding allergies.	--Self-Appraisal of Medical Profile Regarding Active/Passive Immunities, Vaccines and Serums. --Written Assignment

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	E. Vaccines and Serums F. Allergy 1. Foreign protein 2. Allergens 3. Desensitization 4. Antihistamines 5. Nervous disturbances G. Transplants and Rejection Syndrome	The student will be able to: Discuss the transplant-rejection syndrome.	--Conference: Guest Speaker -Transplants and the Rejection Syndrome --Test: -"Immunity, Vaccines and Serums
20	XIX. BASIC NUTRITION A. Nutrition and Surgical Technology 1. Definition 2. General considerations 3. Related terms B. Characteristics of An Adequate Diet 1. Nutritional patterns 2. Nutritional trends C. Functions of Food D. Key Nutrients E. Carbohydrates 1. Functions 2. Deficiences 3. Sources F. Fats 1. Functions 2. Deficiencies 3. Sources 4. Digestion G. Protein 1. Functions 2. Deficiencies 3. Sources 4. Digestion	The student will be able to: Define nutrition and explain how it relates to the Surgical Technician List the characteristics of an adequate diet, explain the functions of food and list the six nutrients. Differentiate between the functions, deficiencies and sources of carbohydrates, fats and proteins.	--Reading Assignment --Lecture/Discussion --Film: -"Nutrition and You" --Flashcards --Crossword Puzzle --Written Assignment

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	H. Minerals 1. Functions 2. Deficiencies 3. Sources I. Vitamins 1. Functions 2. Deficiencies 3. Sources J. Water 1. Functions 2. Deficiencies 3. Sources K. Energy Requirements L. Basic Four (4) Food Groups 1. Vegetables and fruits 2. Milk group 3. Meat group 4. Bread and cereal M. Menu Evaluation 1. Physical and mental health 2. Weight maintenance 3. Energy 4. Feeling of well being	The student will be able to: Differentiate between the functions, deficiencies and sources of minerals, vitamins, and water. Discuss the relationship between energy requirements, nutrition and weight control. List and identify foods found within each of the four (4) food groups.	--Reading Assignment --Lecture/Discussion --Written Assignment --Chalkboard Relay --Written Cumulative Test: -"Basic Nutrition"
30	XX. SURGICAL PHARMACOLOGY A. Weights and Measures B. Pharmacology - Definition C. Surgical Technician's Role 1. Mixing solutions 2. Calculating proportions 3. Performing conversions	The student will be able to: Define pharmacology and describe the Surgical Technician's role concerning it	--Assigned Reading --Lecture/Discussion

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	D. Metric System E. Apothecaries' or English System F. Review 1. Fractions 2. Decimals 3. Percentages 4. Ratio 5. Proportion G. Calculating Doses/Proportions	The student will be able to: Differentiate between Metric and Apothecaries' Systems and convert and calculate from one system to another.	--Lecture/Discussion --Filmstrip: -"The Metric System" --Activity Sheet Handouts for Calculating and Converting --Chalkboard Activities
	H. Accepting Medications in Surgery 1. Step-by-step procedure 2. Precautions in handling	Demonstrate how to accept medications in surgery and describe safety aspects.	--Demonstration and Return Demos: -Role Play - Procedure for Accepting Medications in Surgery
	I. Medications Used in Surgery 1. Types, routes 2. Injectables, topicals 3. Irrigation 4. Diagnostic 5. Blood expanders 6. Intravenous	Differentiate between the various types and routes of medications used in surgery.	--Review Terminology Regarding Same --Practice Sessions --Practical Test --Written Quiz Thus Far
	J. Supplies and Equipment Used With Medications 1. Medicine glass 2. Syringe and needle 3. Bulb syringe and basin 4. Eye dropper 5. Ear syringe 6. Vaporizer 7. Finger cot 8. I.V. bag, bottle, tubing 9. Armboard 10. Tourniquet	Describe, differentiate between and use supplies and equipment used with medications.	--Lecture/Discussion/Demonstration And Return Demos Using: -Medicine Glass -Syringe and Needle -Bulb Syringe and Basin -Eye Dropper -Ear Syringe -Vaporizer (Atomizer) -Finger Cot -I.V. Bag, Tubing, Armboard -Tourniquet
	K. Common Surgical Meds 1. Anticoagulants-definition a. Dicoumarol b. Liquamar c. Heparin d. Warfarin 2. Coagulants-definition a. Gelfoam b. Oxycel c. Avitene d. Thrombin	Differentiate between the actions/uses of classifications of medications used in surgery.	

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	3. Oxytocics-definition a. Pitocin b. Syntocin c. Sparteine SO_4	The student will be able to:	--Lecture/Discussion
	4. Steroids-definition a. Examples b. Uses 5. Antibiotics-definition a. Examples b. Uses		--Flash Cards and Chalkboard Relay Practice Sessions
	L. Contrast Media 1. Definition 2. Uses 3. Examples, commonly used	Differentiate between the action/uses of classifications of medications used in surgery.	--Assigned Reading
	M. Dyes 1. Uses 2. Examples, commonly used N. Diuretics 1. Definition 2. Uses 3. Commonly used examples O. Analgesics 1. Definition 2. Uses 3. Examples of commonly used P. Emergency Drugs 1. Uses 2. Functions 3. Examples a. Aminocardol b. Aminophylline c. Cardiophyllin d. Dopram e. Digitoxin f. Aramine g. Adrenalin h. Epifrin i. Levophed j. Lidocaine k. Sodium bicarbonate		--Lecture/Discussion
	Q. Blood Substitutes R. Saline Solutions S. Blood		--Written Cumulative Test: -"Surgical Pharmacology"

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
12	XXI.HISTORY OF SURGERY A. Definition, Surgery B. Pain, Bleeding, Infection Hampered Progress C. Pain 1. Ancient remedies 2. 1800's - ether and chloroform 3. 1900's D. Hemorrhage 1. Greeks and Romans 2. Dark and Middle Ages 3. 1500's 4. 1600's 5. 1870's 6. 1900's E. Infection 1. Egypt, 3000 B.C. to 1500 B.C. 2. 460 B.C. 3. Greece, Hippocrates 4. Rise of Christianity 5. Rise of monasteries and barbers 6. 1100's Hugo of Lucca 7. Mid 1800's 8. Major pioneers a. Pasteur, Lister, Koch b. VonBergman, Chamberlain c. Halsted d. Bloodgood	The student will be able to: Define surgery and describe briefly the history of surgery.	--Assigned Reading for Short Projects --Film: "The History of Surgery" --Project Presentations --Quiz: "History of Surgery"

COURSE TITLE: Supervised Experience in Surgical Technology and Surgical Procedures

COURSE HOURS: 300-350

COURSE DESCRIPTION: This course provides on-the-job experience under the instruction and supervision of medical and surgical professional leaders. The clinical facilities become an extension of the school, making the educational program more relevant/valid.

COURSE OBJECTIVES: The objective of the clinical experience is to provide the Surgical Technician student with information and experience in order that she/he may:

-acquire a rounded concept of the duties inherent in surgical team membership.

-demonstrate the ability to perform technical skills required of a Surgical Technician.

-demonstrate "surgical conscience" by upholding the highest quality of aseptic technique throughout any surgical procedure.

-participate actively in relationships and communication with patients and co-workers.

-become acquainted with the total organizational structure of the hospital, personnel, physical facilities and, in particular, the Operating Room Department.

-correlate principles and practices learned in the classroom with actual experience in order to demonstrate a safe level of practice and knowledge.

-conduct a job search, write a resume, complete job application forms and demonstrate how to prepare for and respond in an employment interview.

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
12	I. SUPERVISED PRACTICE IN SURGICAL TECHNOLOGY	The student will be able to:	--Lecture/Discussion
	A. Orientation to _____Hospital B. Introduction to Faculty C. Philosophy of Hospital D. Philosophy of Operating Room Department	Describe the philosophy of the hospital and, in particular, the surgical department.	
	E. Hospital and Department Policies F. Clinical Objectives G. Methods of Evaluation	Answer questions relative to rules/policies.	--Field Trip to Clinical Facilities -Tour of Facility
	H. Physical Environment 1. Department of surgery 2. Post-surgical departments	List the changes that may be expected of her/him during and at the end of the year.	
	I. Safety Standards/Measures 1. Fire 2. Electrical hazards 3. Incident reports 4. Personnel health clinic	Demonstrate knowledge concerning the physical lay-out of the surgical department and immediate post-surgical departments.	--Speaker and Film: -Department Head of Safety Services
	J. Central Supply Services 1. Functions 2. Experience objectives	List and describe the prescribed safety measures.	--Tour With Clinical Instructor
	K. Library L. Cafeteria	Identify and describe the Central Service area, its functions and state the objectives of the student experience in that department.	--Tour With Clinical Instructor
		Identify the Library as an area to seek out information pertinent to this course of study	--Conference Regarding Orientation to the Hospital

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
80	II. SURGICAL PROCEDURES A. General Surgery B. Definition C. Historical Summary D. Pathology Prompting Surgical Intervention 1. G.I. tract 2. Biliary system 3. Spleen 4. Pancreas 5. Liver 6. Hernias 7. Procedures of breast 8. Thyroid gland E. Instruments, Sutures, Supplies F. Positioning G. Draping H. Preps I. Anesthesia J. Incisions	The student will be able to: Define "General Surgery" and list operative procedures within the scopes of General Surgery. Integrate anatomy, physiology, and pathology in demonstrating knowledge of the various organs, systems involved Identify, set-up and pass instruments, sutures and supplies appropriate to general surgical operations. State/demonstrate the positioning, draping, prepping procedures. Investigate and report regarding anesthesia used. Name the types of incision.	--Reading Assignment --Lecture/Discussion --Second Scrub and, When Appropriate, First Scrub on General Surgical Procedures --Clinical Conference: -Terminology -Anatomy and Physiology -Specialized Equipment and Supplies -Evaluation of Experience --Practical Testing Toward End of General Surgery Rotation --Written Testing
18	III. OBSTETRICAL AND GYNECOLOGICAL SURGERY A. Definition B. Historical Summary C. Pathology Prompting Surgical Intervention 1. Abdominal procedures a. Hysterectomy b. Salpingo - oophorectomy c. Tubal ligation d. Excision of ovarian cyst e. Caesarean Section f. Laparoscopy	The student will be able to: Define "obstetrics" and "gyn" and give a brief historical development. Integrate anatomy, terminology, and pathology in demonstrating knowledge of the reproductive organs and the procedures involved.	--Reading Assignment --Lecture/Discussion --Second Scrub and, When Appropriate, First Scrub on OBS and GYN Procedures

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	2. Vaginal Procedures a. D and C b. Conization of cervix c. Therapeutic abortion d. Excision cystic Bartholin's gland e. Repair vesicovaginal fistula f. Repair rectovaginal fistula g. Cystocele and rectocele h. Simple and radical vulvectomy i. Hysterectomy D. Instruments, Sutures, Supplies E. Positioning F. Draping G. Preps H. Anesthesia I. Incisions	The student will be able to: Identify, set-up, pass instruments, sutures, supplies appropriate to OBS and GYN procedures. List the few specialized instruments used beyond those used for general surgery. Describe/demonstrate how to position, drape, prep the patient undergoing OBS/GYN procedures. Report regarding the location and type of incision and the anesthesia used.	--Clinical Conference: -Techniques/Procedures such as: -Pomeroy and Irving -Shirodkar -Conization -Special Instruments as: -Laparoscope -Special Sutures -Evaluation of Experience --Written Testing --Practical Testing Toward End of GYN/OBS Rotation
48	IV. UROGENITAL SURGERY A. Definition B. Development of Urology C. Pathology Prompting Surgical Intervention 1. Open procedures - nephrectomy 2. Nephrostomy 3. Kidney transplant 4. Pyelolithotomy 5. Ileal conduit 6. Uretero lithotomy 7. Suprapubic cystostomy 8. Vesicourethral suspension 9. Prostatectomy 10. Circumcision 11. Hypospadias repair 12. Orchiectomy 13. Orchidopexy 14. Vasectomy 15. Hydrocelectomy	The student will be able to: Define "Urogenital", give a brief development of urology and differentiate between open and closed urogenital procedures. Integrate anatomy, pathology, terminology in demonstrating knowledge of urogenital system.	--Reading Assignment --Lecture/Discussion --Second Scrub, and, When Appropriate, First Scrub on Urogenital Procedure

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	16. Closed procedures - cystoscopy 17. Cystometrography 18. Needlebiopsy of prostrate 19. T.U.R. 20. Urethral dilatation 21. Litholapaxy D. Instruments, Sutures, Supplies E. Positioning F. Draping G. Prepping H. Anesthesia I. Incisions	The student will be able to: Identify, set-up and pass instruments, sutures and supplies appropriate to urologic procedures. State/demonstrate positioning, draping, prepping procedures. Investigate and report the type and location of incision and anesthesia used.	--Conference: -Techniques/Procedures such as Marshall-Marchetti -Special Equipment such as Catheters (Urethral and Ureteral), Cystoscope, Telescope, Testicular Implants, Ellikevacuator, Filaforms -Special Incision such as "V" Shaped -Special irrigation solutions-Piggyback -Evaluation of Experience --Written Testing --Practical Testing Toward End of Urogenital Rotation
24	V. ORTHOPEDIC SURGERY A. Definition B. Development of Orthopedics C. Pathology Prompting Surgical Intervention 1. Open reduction, internal fixation 2. Closed reduction, internal fixation 3. Joint reconstruction 4. Repair of tendons and ligaments 5. Vertebral Column 6. Extremities 7. Hip, shoulder 8. Arthroscopy	The student will be able to: Define "orthopedic surgery" and give a brief description of its history. Integrate anatomy, pathology, first aid, and terminology to demonstrate knowledge of orthopedics	--Assigned Reading --Lecture/Discussion --Filmstrips x3 "Orthopedic Procedures" --Second Scrub and, when appropriate, First Scrub on Selected Orthopedic Cases

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	D. Orthopedic Equipment 1. Metal implants 2. Power equipment 3. Hardware 4. Impactors, drivers, extractors 5. Rasps, reamers 6. Osteotomes, curettes, goughes 7. Pin cutters, measuring devices 8. Knives, screwdrivers, elevators 9. Rongeurs, wrenches, saws, drills 10. Casts - types 11. Prostheses	The student will be able to: Distinguish/differentiate between classifications of orthopedic equipment, uses and care of. Set up and pass instruments, sutures, supplies appropriate to orthopedic procedures.	--Conference: -Demonstration of Orthopedic Equipment - i.e. Classifications of Major Equipment -Casting Materials - Review of Types of Casts -Evaluation of Experience --Written Test
	E. Sutures and Supplies F. Positioning G. Draping H. Prepping I. Anesthesia J. Incisions	Describe the position, draping, prepping, anesthesia used and incision made.	--Practical Test Toward End of Orthopedic Rotation
24	VI. OPHTHALMIC SURGERY A. Definition B. Historical Introduction C. Pathology Prompting Surgical Intervention	The student will be able to: Define "ophthalmology" and give brief historical introduction.	--Reading Assignment --Lecture/Discussion
	1. Excision of ptergium 2. Repair of entropion, ectropion 3. External levator resection for ptosis 4. Lateral/medial rectus resection 5. Dacryocystorhinostomy 6. Corneal transplant 7. Enucleation 8. Intraorbital implant and conformer insertion	Differentiate between procedures in this service. Integrate anatomy, physiology, terminology, pathology in demonstrating knowledge of structures of the eye.	--Scrub on Selected Ophthalmic Procedures

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	9. Intracapsular cataract extraction 10. Insertion of intraocular lens 11. Retinal detachment 12. Glaucoma filtering procedure 13. Closed vitrectomy D. Operating Microscope E. Sutures, Sponges, Cautery Unit F. Instrumentation G. Special Medications H. Positioning I. Draping J. Preps K. Anesthesia L. Incisions M. Cleaning Instruments	The student will be able to: Review draping microscope. Identify, set-up and pass instruments, sutures, supplies appropriately. Identify specific ophthalmic meds. State/demonstrate the positioning, draping, prepping procedures. Report regarding incisions, anesthesia and care of instruments	--Conference: -Unique Equipment Such as: -Cryoextractor -Intraocular Lenses -Ophthalmic Cautery Unit -Special Sutures - 4-0 to 12-0 Handling Recommendations -Special Sponges - Spear-Shaped, Lint Free Cellulose -Basic Eye Tray -Special Meds -Evaluation of Experience --Written Test --Practical Test Toward End of Ophthalmic Rotation
24	VII.OTOLOGIC SURGERY A. Definition B. Historical Introduction C. Pathology Prompting Surgical Intervention 1. Myringotomy with tubes 2. Stapedectomy 3. Mastoidectomy 4. Tympanoplasty - types D. Special Equipment E. Dressings F. Instruments, Sutures, Supplies G. Positioning - Patient, Staff H. Draping I. Preps J. Anesthesia K. Incisions	The student will be able to: Define "otorhinolaryngologic surgery" and give brief historical introduction. Integrate terminology, anatomy, physiology, pathology to demonstrate knowledge of the structures of the ear. Identify, set-up and pass instruments, sutures, supplies in selected ear procedures. State/demonstrate positioning of patient and staff, draping, prepping. Report about anesthesia and incisions.	--Reading Assignment --Lecture/Discussion --Second Scrub and, When Appropriate, First Scrub on Procedures Involving Ear Surgery --Conference: -Microscope, Suction-Irrigation, Sponges, Speculum Holder, Dressings -Basic Ear Instruments - Forceps and Scissors, Suction Tips, Knives and Curettes, Delicate Sharps, Elevators, Retractors -Back-Table Set Up -Evaluation of Experience --Written Test --Practical Test Toward End of ENT Rotation

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
24	VIII. NOSE, THROAT AND ORAL SURGERY A. Definition B. Pathology Prompting Surgical Intervention 1. Nasal septal reconstruction 2. Caldwell-Luc procedure 3. Laryngoscopy 4. Tonsillectomy and adenoidectomy 5. Radical neck dissection 6. Dental procedures - extraction C. Instruments, Sutures, Supplies D. Positioning E. Draping - Special F. Prepping G. Anesthesia H. Incisions	The student will be able to: Differentiate between surgeons performing nose and throat procedures and those dealing with dental surgery. Integrate anatomy, physiology, terminology, pathology in demonstrating knowledge of the various structures involved in nose, throat and oral procedures. Identify, set-up and pass instruments, sutures, supplies appropriate to nose, throat and dental surgery State/demonstrate the positioning, draping, prepping procedures Report regarding incisions and anesthesia.	--Reading Assignment --Lecture/Discussion --Second Scrub and, When Appropriate, First Scrub on Nose, Throat, and Dental Cases --Conference: -Special Equipment - Laryngoscope and accessories, dental instruments, suction tips. -Sutures - Handing Left and Right for Tonsillectomy -Review special needs of pediatric patients -Evaluate experience --Written Test --Practical Test Toward End of E.N.T. Rotation
24	IX. PLASTIC AND RECONSTRUCTIVE SURGERY A. Definition B. Development of Plastic Surgery C. Pathology Prompting Surgical Intervention 1. Skin grafting - split and full 2. Pedicle grafts 3. Rhytidectomy 4. Blepharoplasty 5. Dermabrasion 6. Microtia 7. Correction of lop ears 8. Rhinoplasty 9. Repair of cleft palate/cleft lip 10. Chin implant	The student will be able to: Define "Plastic and Reconstructive Surgery" and describe briefly the development of Plastic Surgery. Integrate anatomy, physiology, terminology in demonstrating knowledge of the various structures involved. Differentiate between the surgical procedures listed.	--Reading Assignment --Lecture/Discussion --Second Scrub and, when appropriate, First Scrub on Plastic and Reconstructive Procedures.

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	11. Application of arch bars 12. Repair of fractured mandible 13. Repair of fractured zygoma 14. Repair of fractured maxilla 15. Reduction mammoplasty 16. Augmentation mammoplasty 17. Burns D. Instruments, Sutures, Supplies E. Positioning F. Draping G. Prepping H. Anesthesia I. Incisions	The student will be able to: Identify, set-up, assist with intra-operative measures including passing instruments, sutures and supplies. State/Demonstrate the positioning, draping, prepping procedures. Report regarding incisions and anesthesia	--Conference: -Compare/Contrast Instruments Used in Orthopedics to Plastics -Handling Hand-Honed Instruments -Suture Materials 5-0 to 7-0 Expensive -Implants - Silastic or Teflon -Dyes, Plaster, Sponges, Headlight, Loupes, Microscope, Bovie --Written Test --Practical Test Toward End of Plastic Surgery Rotation
16	X. THORACIC SURGERY A. Definition B. Historical Devleopment C. Pathology Prompting Surgical Intervention 1. Bronchoscopy 2. Mediastinoscopy and otomy 3. Thoracotomy 4. Thoracotomy - open & closed 5. Lung resection, lobectomy, pneumonectomy 6. Thoracoplasty 7. Pulmonary decortication 8. Repair of hiatus hernia 9. Correction of pectus excavation 10. Fractured ribs	The student will be able to: Define "Thoracic Surgery" and give a brief historical background of it. Integrate anatomy, physiology, terminology, pathology in demonstrating knowledge of the various organs and structures. Identify, set-up and pass instruments, sutures, supplies in selected thoracic surgical cases.	--Reading Assignment --Lecture/Discussion --Second Scrub and, when appropriate, First Scrub on Selected Thoracic Surgical Procedures

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	11. Penetrating wounds 12. Thoracentesis 13. Closure of sucking wound 14. Tracheotomy 15. Insertion of chest tubes 16. Lung biopsy D. Instruments, Sutures, Supplies E. Positioning F. Draping G. Prepping H. Anesthesia I. Incisions	The student will be able to: State/Demonstrate the positioning, draping, prepping procedures used. Report the incisions made and anesthesia used.	--Conference -Underwater Chest Drainage System - Principles and Equipment -X-Ray Procedures Monitors Intra-Aortic Balloon Equipment -Basic Set-Up with Extra Thoracic Instruments - Demonstrate Rib Spreaders -Evaluation of Experience --Written Test --Practical Test Toward End of Rotation
20	XI. CARDIOVASCULAR-PERIPHERAL VASCULAR SURGERY A. Definition B. Historical Development C. Pathology Prompting Surgical Intervention 1. Mitral commissurotomy 2. Mitral valve replacement 3. Excision of ventricular aneurysm 4. Coronary artery bypass graft 5. Insertion of cardiac pacemaker 6. Median sternotomy 7. Cardiopulmonary bypass 8. Replacement of pacemaker battery 9. Aortic valve replacement 10. Total correction of tetralogy of fallot	The student will be able to: Define "cardiovascular" and "peripheral vascular" and describe briefly the historical development. Differentiate between the varied surgical procedures listed. Integrate anatomy, physiology, terminology, and pathology in demonstrating knowledge of the organs and structures listed.	--Reading Assignment --Lecture/Discussion --Second or Third Scrub or observe in this service due to the complex and urgent nature of procedures in this service.

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	11. Peripheral vascular arterial bypass 12. Femoral popliteal bypass 13. Carotid endarterectomy 14. Embolectomy 15. Arteriovenus shunts and fistulas D. Instruments, Sutures, Supplies E. Positioning F. Draping G. Prepping H. Anesthesia I. Incisions	The student will be able to: Second or third assistant in setting up and/or observing cardiovascular or peripheral vascular procedures. Report regarding instruments, sutures, positioning, draping, prepping, anesthesia and incisions.	--Conferences: -"Seconds Save Lives" and "Teamwork" are mottos of these surgical procedures -Thoracic set-up with extra cardiac instruments (non-crushing clamps, suction tips, sump tubes) -Hypotermia -Closed water-seal post-op -Microscope prn -Diagnostic measures -Heart-lung machine (and team) --Written Test
20	XII. NEUROSURGERY AND PERIPHERAL NERVE SURGERY	The student will be able to:	--Reading Assignments
	A. Definition B. Historical Introduction	Define "Neurosurgery" and "Peripheral Nerve Surgery" and describe the history of this service.	--Lecture/Discussion
	C. Diagnostic Procedures 1. Angiography 2. Myelography 3. Pneumoencephalography 4. Ventriculography 5. Echoencephalography 6. Cat scan	Use terminology, anatomy, physiology, pathology to differentiate between the diagnostic procedures.	--Guest Speaker Regarding: -"Diagnostic Procedures"
	D. Pathology Prompting Surgical Intervention 1. Neurorrhaphy 2. Sympathectomy 3. Lumbar lominectomy 4. Anterior cervical fusion 5. Craniotomy 6. Cranioplasty 7. Ventriculoatrial shunt 8. Ventriculoperitoneal shunt	Interpret/differentiate between the procedures listed and research the pathology prompting surgical intervention.	--Present Research Papers Regarding Pathology

HOURS	**CONTENT**	**BEHAVIORAL OBJECTIVES**	**SUGGESTED ACTIVITIES**
	9. Intracranial microneurosurgery 10. Excision of spinal cord tumor 11. Neurolysis	The student will be able to:	--Reading Assignments --Lecture/Discussion -Guest Speaker
	12. Neurotomy 13. Neurectomy E. Instruments, Equipment F. Sutures, Supplies	Report regarding special equipment, instruments, sutures, positioning, draping, prepping, anesthesia and incisions used in Neurosurgery.	--Observe and Report Regarding Neurological Procedures
	G. Positioning H. Draping I. Prepping 1. Shaving 2. Intraop scrub and prep J. Anesthesia K. Incisions		--Conference: -Procedures/Techniques -Equipment -Supplies --Written Test: -"Neurosurgery and Peripheral Nerve Surgery"
16	XIII.JOB HUNTING	The student will be able to:	--Research Assignment
	A. Look at Today's Job Market 1. More people 2. Changing profile 3. Service industries take lead 4. Technical society	Discuss the current employment climate. Demonstrate recognition of the various limitations and/or opportunities.	--Written Plan
	B. Plan Your Approach 1. Self inventory 2. List employer possibilities 3. List possible contacts 4. Prepare for job interview		--Guest Speaker -Authority Figure
	C. Where to Look For Jobs 1. Newspapers 2. Government 3. Training centers 4. Personal contacts	Develop a plan appropriate to the individual's needs, personality and realistic capabilities.	--Conference
	D. Prepare Resumé and Letter of Inquiry	List avenues helpful in job hunting.	

HOURS	CONTENT	BEHAVIORAL OBJECTIVES	SUGGESTED ACTIVITIES
	E. Prepare for Interview 1. Find out about organization 2. Reassure yourself 3. Be prepared 4. Dress appropriately 5. Time yourself	The student will be able to: Write a letter of inquiry and a resume. List areas of interview preparation.	--Peer review contrasting approaches to letters of inquiry and resumes.
	F. Review Education, Certification and Job Opportunities for Surgical Technicians	Integrate education/experience to assist with job hunting.	--Mock Interview Sessions Using Tape Recorder for Self-Assessment
	G. During Interview 1. Shaking hands 2. Fill application as directed 3. Show enthusiasm 4. Look interviewer in the eye 5. Posture 6. Truthfulness	Describe considerations important to an interview.	--Practice Sessions Completing Various Applications
	H. Application 1. Read completely 2. Follow directions 3. Print/write clearly 4. Be concise, complete	Demonstrate the ability to follow directions when filling out applications.	--Conference: -Job Appeal -Employee Appeal -Health Career Opportunities -Responsibility and Accountability
	I. Before Accepting a Job 1. Check chances for advancement 2. Satisfaction of needs 3. Job location 4. Working conditions	Demonstrate recall in using problem solving techniques.	
	J. How to Hold a Job 1. Be realistic 2. Be patient 3. Be alert 4. Be proud 5. Be cooperative 6. Be mature 7. Be dissatisfied until you are the person you want to be	Appraise, state an opinion regarding holding a job. Describe his/her expectation of a job.	

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Charts

Circulatory System
Organs of the Chest and Abdomen
Urogenital System
Human Brain

Filmstrips and Cassettes

Admitting the Patient for Surgery
Operating Room Positioning I - Supine, Lithotomy
Operating Room Positioning II - Lateral, Prone, Jacknife
Operating Room Skin Prep
Operating Room Draping I - Mastectomy, Lithotomy
Operating Room Draping II - Thoracotomy, Laparotomy, Extremity
Verbal Barriers to Communication
Non-verbal Barriers to Communication
C-Section - Surgical Alternative
Cleaning the Operating Room
Scrubbing, Gowning, Gloving
Use of Stretchers
Lumbar Puncture
Open-Heart Surgery
Bedmaking
Basic Concepts of Microbiology
Man's Response to Pathogens
Intravenous Therapy
Range of Motion Exercises
Blood Pressure
Temperature, Pulse and Respiration
The Lymphatic System
The Endocrine System
Urinary Catheterization
Pre-operative Care of the Patient
Assisting with Physical Examination
Neurological Examination
Yale New-Haven Hospital: Setting Up the O.R.